
ANNALS

MEDEDELINGEN

OF THE

VAN HET

TRANSVAAL MUSEUM

VOL. 7

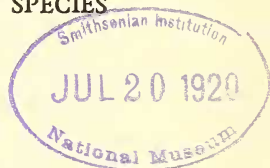
PART 3

ON THE SOUTH AFRICAN *NOTODONTIDAE*

WITH DESCRIPTIONS OF APPARENTLY NEW GENERA AND SPECIES

By A. J. T. JANSE.

With 14 plates.



As far as the sub-continent is concerned, the family *Notodontidae* has, on the whole, neither been extensively dealt with nor properly classified. Further, no attempt has yet been made to catalogue this group of South African moths, although the country is fairly rich in species. It has been my good fortune to secure and study the majority of these, and only three genera recorded from S. Africa have not been before me.

The most comprehensive account of the family is to be found in Professor Packard's *Monograph of the Bombycine Moths of America north of Mexico*. This work deals only with North American genera of which few indeed occur in S. Africa. It has nevertheless been of great assistance to me although I have not been able to apply the principles of sub-family grouping therein annunciated owing to slight acquaintance with local larvae. In the future, therefore, when these have become better known, especially the larvae of the first instar, some rearrangement of the genera may become necessary.

In the task which I have set myself, I have also found the *Moths of India*, vol. 1. by Sir George Hampson most useful although not more than ten Indian genera occur in South Africa. Further, a paper on the American *Notodontidae* by Schaus which appeared in the *Trans. Ent. Soc. Lond.* 1901 (pp. 257-343), and several papers on European members of this family have also served a useful purpose.

However, the generosity of Sir George Hampson in supplying me with notes on genera, which have no doubt led to the avoidance of many an error, has been my main assistance and I take this early opportunity of expressing my deep sense of gratitude to him.

As usual, the conventional but entirely artificial northern boundary of South Africa has been adopted; *i.e.* the southern banks of the Zambesi and Quinene rivers.

The material examined is typical of the whole area south of this line of demarcation. Most of the specimens came from Natal, the Transvaal or Southern

Rhodesia, the last yielding several new and peculiar forms. I have had access to nearly all the available specimens in our local Museums and private collections; among the latter I would mention those of Messrs E. E. Platt, E. L. Clark and Father J. A. O'Neil.

So far as my knowledge of the moths goes, the distribution of the *Notodontidae* in S. Africa is interesting inasmuch as scarcely any species peculiar to the Cape Province have come under my notice. This does not obtain with the *Lymantriadae*, of which certain genera were rather well represented in that region. Although it is by no means so rich in Heterocera as the Eastern region, I cannot help thinking, that a more systematic survey would show more *Notodontidae* in the Cape Province than we know of at present.

It is not unlikely that some of the insects herein described as new species have been previously described from Central Africa, because the references at my disposal do not include all the literature of the *Notodontidae* of Africa; however, every possible precaution has been taken to guard against duplication.

The references given are those which I have used, but all synonyms have not necessarily been given for each case.

The measurement of the span has been arrived at by doubling that taken from the middle of the thorax to the tip of the fore wing.

Unless stated to the contrary, the point at which an inner vein branches away from an outer is a proportion of the length of the outer, as measured from the cell to the margin.

In many instances the interrelationship of the various genera has not been very clear to me. There are gaps which may yet be filled by new forms or which were once occupied by some now extinct. Packard has defined with more or less success seven sub-families. For my own part I recognise eight groups, but it is questionable whether these have the value of sub-families.

GROUP I.

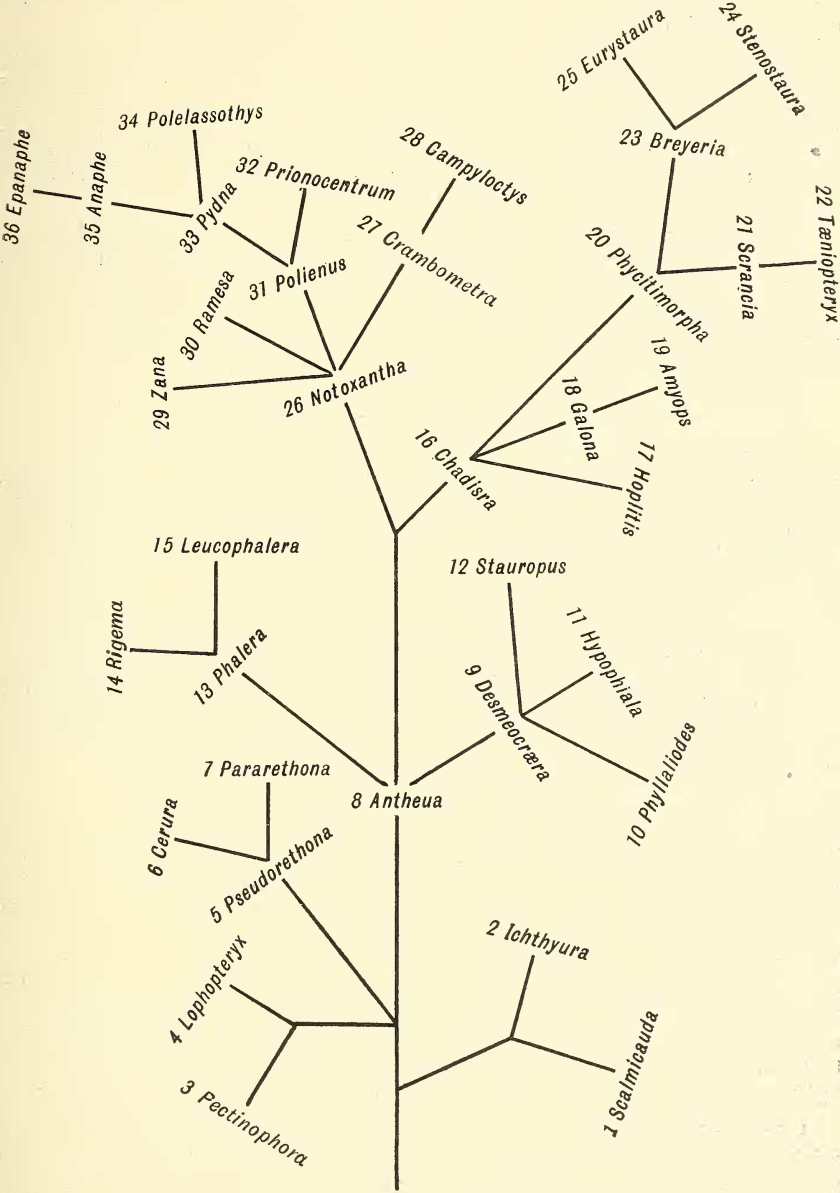
This group comprises the genera *Scalimicauda* and *Ichthyura*, of which the members are characterised by their hairy eyes, and their tendency to develop tufts on the thorax, peculiarities of no other Notodontids. *Ichthyura* is the more specialised genus, but I hardly think that it originated from *Scalimicauda*.

GROUP II.

The two genera *Pectinophora* and *Lophopteryx* compose this group of moths peculiar for the tufted inner margin of the fore wing. I take this group to have originated from an ancestral form common to it and to *Antheua* as its structure is rather more primitive than that of *Antheua* although similar.

GROUP III.

This group I also regard as having originated from the root common to groups II and V, although no trace can be found elsewhere of the spur on the fork of vein 1 b of fore wing, peculiar to this group and possibly a rather primitive character. This *Cerura* group has three genera: *Pseudorethona*, *Cerura* and *Pararethona*; the spur on 1 b, the scaling of the legs and the branches of the antennae all indicate close affinity. *Cerura* has lost the median spur on the hind legs, and for this reason is considered specialised; but, on the other hand, it has a bar between the upper median and vein 8 of the hind wing; this bar is missing in *Pseudorethona*. *Pararethona* may ultimately prove to be connected in one way or another with *Chadisra* but it certainly also exhibits relationship to the two other genera of the group.



Phylogeny of the Notodontidae.

GROUP IV¹.

This may be called the *Desmeocraera* group, comprising the genera *Desmeocraera*, *Phyllaliodes*, *Hypophiala* and *Stauropus*, the members being peculiar as the proboscis is absent or, when present, very weakly developed.

Of these genera *Desmeocraera* is the largest South African genus and peculiar for (1) the absence of the areole, (2) for its well developed palpi, (3) for possessing spurs on the hind legs, (4) for the presence of all veins, (5) for the smallness of the third joint of the palpus. *Stauropus* originates directly from *Desmeocraera*, having all the veins but only two spurs on the hind legs; in both genera the terminal part of the spurs is peculiar and the palpi are reduced in size and porrect.

The remaining two genera *Hypophiala* and *Phyllaliodes* may have originated near *Desmeocraera*, but the position of *Phyllaliodes* in particular, is far from clear to me as veins 6 and 7, 8, 9 and 10 suggest that they arrived from a form having an areole in the fore wing. The palpi in both genera are however very much reduced. There exists in these two genera a remarkable likeness to the *Striphnopterygidae* in general appearance.

GROUP V.

This group should most probably include *Antheua*, from which *Phalera* branches off more or less directly as it shows a close affinity to that genus, being differentiated from it by (1) the more elongated fore wing; (2) the position of veins 6 and 7; (3) the presence of the bar in the hind wing; (4) the shorter and less upturned palpi; (5) the reduced pectination of the antennae; (6) the general pattern of the fore wing, the last differentiating it at once. Both *Rigema* and *Leucophalera* may have originated from *Phalera*. In *Rigema* the teeth of the spurs have been more developed, the palpi are more porrect and shorter, but the markings on the abdomen are as in *Antheua* and *Phalera*. *Leucophalera* shows a similar development of the spurs, but the rows of teeth are shorter, the bar in the hind wing is absent, in the fore wing veins 6 and 7 originate in a different way and the process of the fore tibia is also different from that of any of the previous genera.

GROUP VI.

This may be named the *Chadisra* group. It comprises *Chadisra*, *Hoplitis*, *Galona* and *Amyops*. The genus *Chadisra* shows affinity to *Antheua* in the structure of the palpi and in the venation of the wings; but the hind wing has a bar, and the fore wing is more narrow and elongate with a corresponding decrease in surface of the hind wing; these two last characters are found more or less in all genera of this group. There is also a tendency for the branches of the antennae to be reduced; these in the more generalised genera are rather well developed. The process of the fore tibia is of the same type as that of *Antheua* and the spurs, though longer, terminate in the same manner. I think two branches sprung from this genus; one being *Hoplitis*, which preserves the upturned palpi but has lost the areole through anastomosis, the other, com-

¹ Groups IV, V and VI are in many ways closely allied and I regard them as originating from a form very similar to the present members of *Antheua*. Possibly they should be included with that genus so as to form one large group. *Antheua* is certainly the most generalised of all the remaining genera although containing less species than one would expect for such an old genus. Even nowadays *Antheua* displays a great tendency to vary structurally. It is peculiar, that the bar between the upper median and vein 8 of the hind wing is absent in *Antheua*, present in groups VI and VIII and absent again in group IV.

prising *Galona* and *Amyops* which preserve the areole whilst the palpi become much reduced; in *Amyops* the median spurs of the hind legs also disappear.

GROUP VII.

This may be called the *Scrancia* group, comprising six genera. It may have originated somewhere near *Chadisra*, the similarity in structure and the tendency of the fore wing to be narrow, pointing to this. But here the hind wing is ample and remains usually so, while the rather long legs, especially of *Scrancia*, are extraordinary features in the Notodontidae. I think that *Phycitimorpha* is the oldest genus and from it two branches have developed: the "*Scrancia*" branch, in which the proboscis remained, and the "*Breyeria*" branch with this organ lost to its three genera. From *Scrancia*, *Taeniopteryx* may have developed, judging by (1) the coalescence of the areole of the fore wing, (2) the stalking of vein 6 to the stalk of 7-10, (3) the obsolescent vein 5 in the hind wing; a puzzling feature is, however, the rather long process of the fore tibia which in *Scrancia* is short and broad. It is remarkable that in *Breyeria* this process is also longer than in *Scrancia*, even longer than in *Phycitimorpha*; further the members of *Breyeria* lack a proboscis, have reduced palpi and much broader fore wing than those of the *Scrancia* branch. The members of the genus *Stenostaura* are remarkable for (1) the stalking of veins 3 and 4 in both wings, (2) the absence of the median spurs on the hind legs, (3) the shorter process on the fore tibia, and (4) their palpi. In *Eurystaura* on the other hand the areole is lost by coalescence, vein 5 of the hind wing becomes very faint and the process of the fore tibia is much shorter than in *Breyeria*.

GROUP VIII.

This I call the *Notoxantha* group. It comprises as many as eleven genera, several of which have a more or less developed bar in the hind wing. The group originated somewhere near *Antheua*, *Zana* in particular closely resembling *Antheua*. *Notoxantha* shows several generalised characters but is probably not quite like the form from which the others must have come. *Crambometra* is peculiar for the well-developed branches of the antennae; the venation of the fore wing resembles *Notoxantha*, but in that of the hind wing vein 5 is reduced; the genus *Campyloctys* is closely allied to *Crambometra* as is clearly indicated by the antennae, but the venation of the fore wing is remarkable, as veins 8 and 9 have become separated, thus doing away with the areole and causing 7 and 8, 9 and 10 to be stalked; here also the palpi are more porrect. *Zana* may have originated directly from *Notoxantha*, the spurs are shorter, the bar of the hind wing is less distinct and the palpi are more reduced and porrect. *Ramesa* stands more or less alone by the peculiar development of the antennae, but the fore wing agrees in venation, but not in markings, with *Notoxantha*.

Polienus and *Prionocentrum* come somewhere before *Pydna*, but the relation of both these genera is not quite clear to me; on the whole *Prionocentrum* is a rather peculiar Notodontid.

The peculiar reduction in the *Pydna* branch is the disappearance of the areole through anastomosis of the greater part of vein 10 with veins 6, 7, 8, 9 (in *P. rubrifascia*, indeed, it can be seen how the areole disappeared); all other characters are remarkably like those of *Notoxantha* except that the frons is smooth. *Polelassothys* has (1) the palpi very much reduced, (2) only two spurs on the hind tibia, (3) vein 8 of hind wing coalescent with nearly the whole of the upper median; this last feature is particularly interesting.

The genus *Anaphe* may have originated from *Pydna*, although the reduction of the spurs as between these two genera points to one or more intermediate

genera. *Epanaphe* I consider to be directly derived from *Anaphe*, although the disappearance of vein 5 in both wings is a very sudden transition.

ACKNOWLEDGEMENTS.

THE TRANSVAAL MUSEUM: for the most generous way in which the Director allowed me to publish this paper and Mrs C. J. Swierstra for assisting me with his material.

THE SOUTH AFRICAN MUSEUM: for the loan and presents of several Notodontids and for kindly copying some descriptions not in my library.

THE NATAL AND DURBAN MUSEUMS: for the loan of their whole material of this family.

THE SOUTHERN RHODESIA MUSEUM: for the loan of specimens.

Family NOTODONTIDAE.

General build noctuiform, seldom slender; fore wing *1b* often forming a fork at base, *1c* absent, vein 5 from middle or a little above middle of discocellulars; hind wing with two internal veins, vein 5 from middle of discocellulars or absent, 8 free from base, then parallel with, or approximated to, upper median or connected with that vein by a bar, then obliquely to near apex.

KEY TO THE GENERA.

1 a. Eyes hairy	2
b. Eyes glabrous	3
2 a. Fore wing with an areole	Scalmicauda p. 158
b. Fore wing without an areole	Ichthyura p. 161
3 a. Fore wing with one or more tufts of hairs and scales on inner margin at middle	30
b. Fore wing without such a tuft	4
4 a. Hind legs with four spurs	10
b. Hind legs with two spurs only	5
5 a. Fore wing with an areole	6
b. Fore wing without an areole	7
6 a. Areole long, about half the distance from upper angle to apex; abdomen with lateral tufts of hair	Amyops p. 206
b. Areole short, less than one-third the distance from upper angle to apex; no lateral tufts of hair on abdomen	Cerura p. 170
7 a. Fore wing with all veins present	8
b. Fore wing with at least one vein absent	9
8 a. Antennae bipectinated for two-thirds their length; branches in ♂ over six times shaft; fore and hind wing with veins 3 and 4 separate; hind wing with vein 5 rather weak	Stauropus p. 194
b. Antennae bipectinated for two-thirds of shaft, but pectination short, only two times shaft; hind wing with vein 5 weak; fore wing with veins 3 and 4 on a short stalk; hind wing with veins 3 and 4 on a stalk of over one-third of 3 or from a point	Stenostaura p. 215
c. Antennae bipectinated till the tip	Anaphe p. 232
9 a. Fore wing with vein 8 absent; hind wing with all veins present	Polelassothys p. 229
b. Fore wing with veins 5 and 9 absent; hind wing with vein 5 absent	Epanaphe p. 234
10 a. Hind wing with vein 5 absent or very weak ¹	31
b. Hind wing with vein 5 present, at least distinct	11
11 a. Fore wing without an areole ²	12
b. Fore wing with an areole ³	15

¹ In *Antheua dimorpha* vein 5 is very weak and the proboscis is in some specimens practically absent, but the other characters place this species provisionally in *Antheua*.

² In some cases the areole is not completed by the connection between vein 10 and the stalk of 8-9. General characters will have to decide to which group it belongs. In *Antheua* some species are very inconsistent in this character, some specimens of the same species having and lacking the areole. Many specimens have in such a case to be examined.

³ In *Chadisra* and *Antheua* the areole may be absent in some species.

- 12 a. Fore wing with vein 10 free **Hypophiala** p. 192
 b. Fore wing with vein 10 stalked with 8, 9 **Phyllaliodes** p. 192
 c. Fore wing with vein 10 stalked with 7, 8, 9 **13**
- 13 a. Fore wing long and with vein 10 from before 7; outer margin very oblique; spurs on tibia short **Hoplitis** p. 203
 b. Fore wing with vein 10 from beyond vein 7 **14**
- 14 a. Pectination of antennae in ♂ long, over 4 times shaft, but tip not pectinated; fore wing with vein 6 from base of stalk 7, 8, 9, 10 **Desmeocraera** p. 183
 b. Pectination of antennae of ♂ short, about two times shaft, but almost reaching to tip; 6 of fore wing remote from base of stalk 7, 8, 9, 10 **Pydna (rubritincta)** p. 229
- 15 a. Fore wing long, outer margin very oblique; legs and spurs very long; areole of fore wing very broad, about as long as three times breadth; pectination of antennae of ♀ short (two times shaft) and only up to about $\frac{3}{4}$ rd of shaft; antennae over half of costa in length; palpi long, upturned, second joint three times first joint, covered with short hairs; hind wing with vein 8 parallel to upper median from base to half of upper median **Scrancia** p. 210
 b. Fore wing long, outer margin erect; areole broad (about three times), vein 6 from $\frac{3}{4}$ rd of areole; 7 on a long stalk with 8, 9; hind wing with vein 5 very weak; pectination of antennae over three times shaft **Phycitimorpha** p. 208
 c. Fore wing broad; legs moderate; areole over three times as long as broad; antennae with the pectination three times shaft or more in ♂; palpi rather short, densely hairy **16**
- 16 a. Fore wing with vein 6 remote from the areole, or if it is as in b the abdomen has distinct dorsal crests (as in *Polienus nigrosparsa*); hind wing with vein 3 from $\frac{3}{4}$ rd distance 2-4; 5 rather weak; hairs of thorax produced into one small tuft **17**
 b. Fore wing with vein 6 from the areole or from base of areole, or if as in a the abdomen has no dorsal crests; hind wing with vein 3 from well beyond $\frac{3}{4}$ rd distance 2-4; hairs of thorax not forming a tuft **18**
- 17 a. Areole very long, about half the distance from upper angle to apex; 10 from areole; 8 of hind wing not connected by a bar with the upper median **Galona** p. 205
 b. Areole very short, about $\frac{1}{4}$ th of distance upper angle to apex, 10 from stalk of 8, 9; 8 of hind wing connected with upper median by a bar **Polienus** p. 223
- 18 a. Fore wing with vein 6 from end of areole, almost stalked with 7, 8; 5 from near areole, much above middle of discocellulars **19**
 b. Fore wing with vein 6 from well before end of areole; 5 remote from areole, not much above middle of discocellulars **20**
- 19 a. No spur towards inner margin on fork of vein 1b of fore wing; no tufts of scales on mid and hind tibiae; branches of antennae do not reach the tip and are about 10 times the shaft in the ♂; palpi with 1st joint longer than 2nd joint; spurs with two rows of serrae **Pararethona** p. 173
 b. Fore wing with a spur towards inner margin from fork of 1b as in *Cerura*; mid and hind tibia with tufts of scales; antennae pectinated till tip and branches about four times shaft in ♂; palpi with 1st and 2nd joints of equal length; spurs of tibia with two very short rows of slight serrae only **Pseudorethona** p. 168
- 20 a. Fore wing with vein 7 from before 10 or from equal distance from areole, or from beyond 10 and then at any rate from before end

- of areole (as in *A. simplex*, where 7 comes from the stalk just beyond 10) 21
- b. Fore wing with vein 7 from well beyond vein 10 27
- 21 a. Fore wing with vein 10 from the areole 22
- b. Vein 10 stalked with 8, 9 23
- 22 a. Fore wing rather produced, outer margin somewhat incurved between apex and vein 4, termen rather strongly sinuated; branches of antennae in ♂ till a little over middle of shaft and a little longer than thickness of shaft **Rigema** p. 197
- b. Fore wing not produced at apex, outer margin straight; antennae in ♂ bipectinated till at least $\frac{3}{4}$ rd of shaft and pectination about two times shaft; outer margin but slightly sinuate or not at all
- Antheua** p. 175
- 23 a. Fore wing with vein 10 very shortly stalked with 8, 9; areole extremely narrow **Pydna (rubrifascia)** p. 229
- b. Fore wing with vein 10 on a stalk of about $\frac{1}{3}$ rd the distance of end of areole to apex; areole rather broad 24
- 24 a. Apex of fore wing produced; fore wing very broad, termen well curved inwards below apex **Prionocentrum** p. 226
- b. Apex of fore wing not produced, termen not curved inwards below apex 25
- 25 a. Palpi obliquely upturned; hind wing with stalk of 6, 7 at least $\frac{1}{3}$ rd of 7 26
- b. Palpi porrect; hind wing with stalk of 6, 7 very short, only about $\frac{1}{4}$ th of 7 **Leucophalera** p. 199
- 26 a. Frons with a horse-shoe-shaped prominence; antennae bipectinated till near the tip; termen rather erect, not sinuate; spurs rather thin and long **Notoxantha** p. 217
- b. Frons smooth; pectination of antennae till a little beyond middle of shaft, or only fasciculated; termen oblique and somewhat sinuate; spurs rather short and thick **Phalera** p. 195
- 27 a. Fore wing rather long and narrow; 7 stalked with stalk of 8, 9 28
- b. Fore wing broader and outer margin more erect (as in *Antheua*); 7 and stalk of 8, 9 from or from very near end of areole 29
- 28 a. Fore wing rather long, termen very oblique; a bar between upper median and vein 8 of hind wing; hind wing with dark anal macula
- Chadisra** p. 200
- b. Fore wing broad; termen erect; no bar in hind wing; hind wing concolorous at anal angle **Breyeria** p. 213
- 29 a. Branches of antennae very long, about 8 times shaft, shaft curved and the ends of the branches forming nearly a straight line, extending till the tip; mid-spurs of hind legs short (not reaching beyond end of tibia); tibia densely covered with very long hair; areole of fore wing very long, reaching about half the distance from upper angle to apex **Galona** p. 205
- b. Pectination of antennae only till $\frac{4}{5}$ th of shaft, then the shaft becomes dentate; pectination about 3-4 times shaft, straight, not curved; hind legs with mid-spurs longer and more slender (reaching well beyond end of tibia); hairs on legs less dense; areole moderate, reaching till about $\frac{1}{3}$ rd of distance from upper angle to apex **Zana** p. 221
- c. Antennae unipectinate till half length of shaft, then dentate; pectination short (not over two times shaft); spurs of hind legs long, reaching far beyond end of tibia, smaller spur about half of long spur; areole long, length over half the distance of from upper angle to apex
- Ramesa** p. 222
- 30 a. Areole short, about $\frac{1}{3}$ rd of vein 10; outer margin of fore wing almost

- straight; 6 remote from areole; palpi upturned, long, with 2nd joint nearly half the length of the palpus **Pectinophora** p. 164
- b. Areole long, about half length of vein 10; outer margin sinuate; 6 from areole; palpi short **Lophopteryx** p. 166
- 31 a. Fore wing with an areole; hind wing with vein 5 present but very weak **32**
- b. Fore wing without an areole; hind wing with vein 5 absent **33**
- 32 a. Fore wing with the areole long, 6 times breadth, formed by 8 and 9 becoming shortly stalked beyond the areole; 6 remote from the areole; antennae bipectinate, branches very long, over 8 times shaft, curved downwards; palpi upturned, rather long; hind wing with 6 and 7 remote **Crambometra** p. 218
- b. Hind wing with vein 5 present, but very weak; fore wing with vein 6 from over $\frac{2}{3}$ rd of areole; 7 stalked with 8, 9; areole about three times longer than broad; antennae bipectinate, branches nearly four times shaft, straight; palpi obliquely upturned, just reaching vertex; frons rounded (see also 15 b.) **Phycitimorpha** p. 208
- 33 a. Fore wing with 7, 8, 9, 10 stalked and from upper angle; 6 from upper angle or stalked with 7, 8, 9, 10 **34**
- b. Fore wing with 7 and 8 stalked for nearly half of 7, and from upper angle; 6 from before upper angle; 9 and 10 on a stalk of half of 10 and from before upper angle **Campyloctys** p. 219
- 34 a. Fore wing with vein 6 on a long stalk with 7, 8, 9, 10; hind wing with veins 3 and 4 on a stalk of $\frac{1}{3}$ rd of 3 **Taeniopteryx** p. 212
- b. Fore wing with vein 6 very shortly stalked with 7, 8, 9, 10, or from upper angle together with this stalk; hind wing with 3 and 4 remote **Eurystaura** p. 216

Genus SCALMICAUDA.

Scalmicauda Holl. *Psyche*, vi. p. 439 (1893). Type *benga*.

Auriv. *Entomologisk Tidskrift*, p. 197 (1892).

Auriv. *Arkiv för Zoologi*, Band 2, No. 4, p. 5 (1904).

(Pl. I, figs. 1-5; Pl. II, figs. 1-5.)

Description from *albicostata* Hmps.

♂, ♀. Tongue short but present; palpi rather short, a little longer than length of eye, obliquely upturned, thickly scaled and with some long hair on first joint; first joint short, about one-third of palpus, curved; second joint cylindrical, straight, nearly two times first joint; third joint minute, completely hidden in hairs; eyes covered with hairs, rounded, rather large; antennae about half length of costa, usually curved, in ♂ bipectinate for about two-thirds, or as in *o'neili* bidentate for the same length and with a bundle of curved cilia at the end of each tooth; branches about three times shaft and ciliated forwardly; antennae in ♀ simple, ciliated; fore tibia with a hollow curved process reaching till end of tibia; mid tibia with terminal spurs; hind tibia with four spurs which end in a curved point; femora with long moderate hairs, fore tibia with a thick covering of hairs, mid and hind tibiae sparingly covered with hairs; tarsi with bristles on inner side, smoothly covered with hairs generally.

Fore wing rather long and narrow; costa nearly straight, curved towards apex, which is roundly pointed; termen oblique, gently curved between veins 3 and 7; tornus well rounded; inner margin excurved at middle; vein 1b faintly forked at base; 2 from $\frac{3}{4}$ th lower median; 3 from nearly $\frac{1}{4}$ th 2 to 4; 4 from lower angle; 5 from above middle of discocellulars which are outwardly oblique;

two short veinlets in the cell; 6 from about middle of areole, which is nearly as long as half vein 10; 7, 8, 9 stalked and from end of areole; 7 from stalk at $\frac{1}{3}$ rd of whole stalk, which is as long as $\frac{1}{2}$ distance end of areole to apex; free part of vein 10 from end of areole; 11 from upper median at $\frac{2}{3}$ rd, parallel to r_2 ; 12 parallel to costa.

Hind wing sub-triangular; costa well curved; apex well rounded; termen oblique and well curved; tornus rounded; inner margin gently curved; 1 *a* and *b* somewhat curved, long; 2 from lower median at $\frac{3}{4}$ th; 3 from $\frac{3}{4}$ th distance 2 to 4; 4 from lower angle and curved; 5 from above $\frac{1}{2}$ discocellulars which are somewhat oblique inwardly and have a forked veinlet in the cell; 6 and 7 on a stalk of $\frac{1}{3}$ rd 7 and from upper angle; 8 curved upwards at base, then downwards and approximated to upper median, then curved upwards; a bar to vein 8 from just before middle of upper median. The hairs of the thorax have a tendency to produce a tuft, which is very long and thin in *heterogyna* and practically absent in *albicostata*; the abdomen has a brush of long hairs, which is however absent in *albicostata*. The description given by Holland is altogether insufficient to fix the genus and as the type of the genus is unknown to me, it may be that the characters given above do not apply to all species.

Aurivillius in *Arkiv för Zoologi* also remarks, that Holland's description is insufficient, and adds many useful characters which refer to *fuscinota*, all of which are found on the species I place in this genus. Hampson in *A.M.N.H.* 8. v. p. 492 places Aurivillius' species for certain in *Scalmicauda*, and in addition, gave me very useful information about the genus, also mentioning the hairy eyes, so that I have no doubt that my species are rightly placed here.

It is to be regretted, that generic descriptions are sometimes incomplete to such an extent, that it is impossible to recognise the genus with any certainty if the actual type species is not at hand. The original description should, I think, mention every character more or less readily observable and of distinctive value. This not only applies to genera but also to species.

The genus seems to be confined to Africa; three species have been described from South Africa to which I add a fourth.

They may be tabulated as follows:

- | | | | |
|------|--|---------------------|---|
| 1 a. | A long, narrow thoracic tuft of hairs | heterogyna | |
| b. | No thoracic tuft at all, or if present not long and narrow | | 2 |
| 2 a. | White points at the angle of cell of fore wing; a black point in cell near base; white points at base of cilia | griseitincta | |
| b. | No white points on fore wing and no black point in cell near base | | 3 |
| 3 a. | Costa narrowly white, fore wing maroon-red, no orbicular, reniform or macula below lower median; hind wing in both sexes white; antennae of ♂ bipectinated for $\frac{2}{3}$ rd | albicostata | |
| b. | Costa of fore wing in ♂ broadly white, in ♀ this white is reduced to a triangular macula at end of post median line; a brown round orbicular, reniform and round macula below lower median and before vein 2; cilia tipped with white; antennae of ♂ bi-serrate for $\frac{2}{3}$ rd | o'neili. | |

SCALMICAUDA HETEROGYNA.

(Pl. I, fig. 2.)

Scalmicauda heterogyna Hmps. *A.M.N.H.* 8. v. p. 490 (1910).

I have a ♂ and a ♀ and have seen another ♀ which is in Mr Clark's collection, all in rather broken condition, but distinctly marked. They differ from the description in a few points: the brown rings around the orbicular and reniform

are continuous in one specimen, and the hind wings are whitish-yellow, not white. The process of the fore tibia is in this species similar to that of *albicostata*, but is less twisted and curved inwardly at the tip, while the covering of hairs is much more dense and thicker than in *albicostata*.

Hab. ♂, GILLETS (Natal), 15. 2. '17; ♀, Durban, 5. 5. '13, both in collection Janse; ♂ from Durban in collection Clark.

SCALMICAUDA GRISEITINCTA.

Scalmicauda griseitincta Hmps. *A.M.N.H.* 8. v. p. 492 (1910).

I have not met with this species yet.

SCALMICAUDA ALBICOSTATA.

(Pl. I, fig. 1; Pl. II, figs. 1-5.)

Scalmicauda albicostata Hmps. *A.M.N.H.* 8. v. p. 493 (1910).

My specimens agree well with the description, but the white edging on the costa of fore wing is very narrow; also the colouring of the antemedial line is more yellow and not whitish and in the ♂ the veins of the fore wing are ochreous in colour, a character not mentioned in the description. In a letter to me, Sir George Hampson mentions these characters also from his specimens, so there can be no doubt about my specimens belonging here.

Hab. UMVUMA (S. Rhodesia), 25. 12 '17; Salisbury (29. 2. '17; ♂ and ♀ bred by Father O'Neil¹.) One of these ♂s is very dark in colour and the white costa is hardly present. My ♂s have the antennae bipectinated for $\frac{2}{3}$ rd, the apical third being simple. The costa of the fore wing in the ♂ is less arched than in the ♀ and the antemedial and postmedial lines are more defined in the ♂ than in the ♀.

The thoracic tuft is in this species only indicated.

SCALMICAUDA O'NEILI spec. nov.

(Pl. XIII, figs. 1-3; Pl. I, figs. 4, 5.)

♂. Frons and tuft of antennae at front Sanford-brown (ii); hairs of palpi orange-rufous (ii); a line of cream coloured (xvi) hairs between the antennae and posterior part of tuft at base of antennae cream colour; vertex with deep olive-grey (li) hairs; thorax above, ground colour of fore wing at basal half and at costal region on apical half mars-yellow (iii); hairs on tibiae and femurs, underside of thorax, upper and under side of abdomen and terminal area of fore wing ochraceous-salmon (xv); two flat crests at base of abdomen dark vinaceous-drab (xiv), first crest with a tuft of cream coloured hairs in centre; hairs at side of last abdominal segments cream coloured; anal tuft of spathulated hairs dark, vinaceous-drab mixed with black; shaft of antennae covered with white scales and with teeth on inner and outer side for $\frac{2}{3}$ rd of shaft; rather long fasciculated, forwardly curved whitish hairs on each tooth.

Fore wing; a broad white fascia along costa from base to near apex filling space between costa and vein 12 and extended near apex to vein 10; sub-basal line indicated by some dark scaling near costa and below lower median; antemedial line faint, dark, most distinct below discal fold, angled inwardly at 1b; a rounded blackish, macula, somewhat angled towards discocellulars, inner side with blackish scales, edge ill-defined by a blackish ring; orbicular large, angled inwardly on inner side, curved on outer side, coloured and defined

¹ Father O'Neil informs me that the caterpillar of this species feeds on *Brachystegia randi*.

as orbicular; postmedial line almost parallel to termen, cream coloured, curved at 8, nearly straight and very oblique to vein 4, then curved inwardly to vein 2, then curved outwardly to 1a, then oblique to inner margin; just beyond it and near tornus a slight hind-marginal tuft of dark vinaceous-drab hairs and a broader similar tuft just before it; some dark and white scales beyond postmedial line at apex above vein 8; a sub-terminal series of black lunules between the veins from vein 1b to 8; some black scaling beyond each lunule; cilia chamois (xxx), tipped with white from vein 3 to apex and getting mixed with dark scales towards tornus.

Hind wing: ground colour cartridge-buff (xxx), slightly tinged with pinkish-buff (xxix) on the veins and on inner marginal area; cilia cream-buff.

Under side: ground colour of both wings cream-buff; the costal fascia of fore wing cartridge-buff; fore wing tinged with vinaceous-buff (xl), thinly at inner marginal area; hind wing with the costa tinged with vinaceous-buff; cilia somewhat darker than on upper side.

♀. Ground colour of fore wing and thorax more vivid ochraceous-orange; all markings less dark, ferruginous (xiv); a costal ferruginous fascia, less broad than the corresponding white fascia of ♂; antemedial line more distinct, ferruginous, double and filled in with some whiter scales, incurved at discal fold and below 1b; postmedial line less distinct, more curved between 2 and 5 and only clearly visible as far as vein 2; beyond it a white triangular macula at costa; sub-terminal lunules as in ♂; hind wing cartridge-buff, tinged with pinkish-cinnamon (xxix); under side of both wings deeply tinged with pinkish-cinnamon. Antennae simple; thoracic crest less pronounced, almost absent.

♀. *var.* Generally much darker, but lines and dark maculae obsolescent; thorax and colour of whole fore wing carob-brown (xiv); postmedial line very faint; white costal macula somewhat smaller; abdomen on upper and under sides cinnamon-rufous (xiv); hind wing on upper side and both wings on under side mikado-brown (xxix). This species comes close to *niveiplaga* Hmps. and *argenteomaculata* Aur.; from the former it differs mainly in the orbicular and reniform being more rounded instead of elliptical, the macula below orbicular being large and not a mere blackish spot, the different postmedial line and the white macula being triangular, not wedge-shaped. From the latter it differs mainly in the thoracic tuft, which is quite long and produced even in the ♀ of *argenteomaculata* while the tuft of *o'neili* is short, triangular in the ♂ and almost absent in the ♀.

Unfortunately of these two species only ♀s are known to me from description and it will be interesting to know if their ♂s will also have the broad white costal fascia.

Exp. ♂, 46 mm.; ♀, 56 mm.

Hab. SALISBURY, 1. 5. '18; 19. 5. '18; *var.* 24. 2. '18, all bred by Father J. O'Neil, after whom I have much pleasure in naming this species. All in coll. Janse, kindly presented by Father O'Neil.

Genus ICHTHYURA.

(Pl. I, fig. 6; Pl. II, figs. 6-10.)

Ichthyura Hübn. *Verz. bek. Schmett.* p. 162 (1822).

Hmps. *Moths of India*, 1. p. 172 (1892).

Packard. *Memoir of the Nat. Acad. of Sciences*, VII. p. 123 (1895).

Type *anastomosis*. Description from *roseotincta*.

♂, ♀. Proboscis very short; head bent downwards; frons rounded and with a tuft of hair; palpi obliquely upturned; first joint short and curved; second

joint somewhat curved on both ends, long, about three times first joint, cylindrical; third joint short, somewhat pointed; all joints with long hair in front, with scales and hairs at the sides; eyes moderate, oval and covered with hairs; antennae rather short, less than half of costa; shaft curved, bipectinate in both sexes; pectination four times shaft in ♂, two times in ♀, on under side forming a straight line and getting very short beyond $\frac{3}{4}$ rd of shaft; legs rather short, especially the fore legs; fore tibia of ♂ with a pointed process on inner side, as long as tibia and covered with long dense hairs on outer side; in ♀ the process is narrow and the hairs are shorter; tarsi short and with dense tufts of long hairs on outer side; mid tibia with terminal spurs, longest inner spur about $\frac{1}{3}$ rd of whole tibia, outer spur somewhat shorter; hind tibia with four spurs, outer spur shortest; tarsi of last pair of legs covered with moderate hairs; thorax with a distinct crest and some long hairs at base of abdomen.

Fore wing rather short; costa arched near base, then straight and curved towards apex; apex obtuse; outer margin erect, straight, curved towards tornus which is well rounded; inner margin curved at half; 1b well forked at base; 2 from beyond $\frac{3}{4}$ th lower median; 3 from $\frac{3}{4}$ rd 2 to 4; 4 from lower angle and much curved; 5 from $\frac{3}{4}$ rd discocellulars, which are erect and somewhat curved; 6 slightly stalked with stalk of 7, 8, 9, 10 which comes from upper angle; 7 from stalk at $\frac{1}{3}$ rd of 8; 8 to apex; 9 from 8 beyond $\frac{3}{4}$ rd of 8; 10 from stalk, 8, 9 at before middle of 8; 11 from upper median at $\frac{3}{4}$ th; 12 parallel to costa except near base where it is curved. Hind wing sub-triangular; costa well arched; apex rounded; outer margin oblique, well rounded at vein 3, somewhat incurved between 4 and 6, 2 and 3; tornus and inner margin rounded; 1a and 1b slightly curved; 2 from lower median at $\frac{3}{4}$ rd; 3 from $\frac{3}{4}$ th 2 to 4; 4 from lower angle; 5 absent, only a mere trace of it can be seen; discocellulars very oblique at lower half, then more erect; 6 and 7 stalked for about $\frac{1}{3}$ rd of 6; 7 well curved at tip; 8 slightly curved at base, then approximated to upper median beyond middle, but not touching it, then upcurved beyond $\frac{3}{4}$ rd and downwards towards tip.

Range: N. America, Europe, Asia, Africa.

The three South African species may be distinguished as follows:

- | | | |
|------|--|---------------------|
| 1 a. | Transverse lines almost absent; where the medial and postmedial lines should be the ground colour is slightly lighter; fore wing vinaceous-lilac, irrorated with morocco-red, especially at the costal area | |
| | | violacearia |
| b. | Transverse lines distinct; fore wing along the costa of ground colour or lighter | 2 |
| 2 a. | Tuft of thorax in front and hairs of frons mummy-brown; hind wing as dark as fore wing; apical part of fore wing buckthorn-brown; reniform oval; sub-terminal line consisting of rather irregularly placed spots | |
| | | lentisignata |
| b. | Colour of thoracic tuft orange-cinnamon; hind wing lighter than fore wing; fore wing with the apical and terminal part lighter than ground colour; reniform round; sub-terminal line almost continuous | |
| | | roseotincta |

ICHTHYURA LENTISIGNATA.

Ichthyura lentisignata Hmps. *A.M.N.H.* 8. v. p. 495 (1910).

I have one ♀ in my collection which agrees well with the description except for the oblique dark shade in the fore wing from postmedial line at

discal fold to termen at vein 3. I have seen another specimen in Mr E. E. Platt's collection, collected at Durban, in which the sub-terminal spots and the terminal black striae are entirely absent.

Hab. Natal.

Larva feeds on *Trimeria alnifolia* Planch (E. E. Platt); pupates in silken cocoon between leaves of food plant.

ICHTHYURA ROSEOTINCTA spec. nov.

(Pl. XIII, fig. 4; Pl. I, fig. 6; Pl. II, figs. 6-10.)

♂, ♀. Ground colour of thorax and fore wing congo-pink (xxviii), of abdomen on both sides, thorax, wings on under side, hairs on hind wing on upper side and legs pale vinaceous-fawn (xl); tuft of thorax in front, palpi at sides and costal area of fore wing densely irrorated with orange-cinnamon (xxix); some blackish hairs mixed with vinaceous-fawn hairs on frons; antennae with shaft pale congo-pink and a few orange-cinnamon scales, branches Rood's brown (xviii). Fore wing, especially basal $\frac{2}{3}$ rd, irrorated with orange-cinnamon, terminal part only slightly, so as to have a light vinaceous-fawn (xl) tinge in certain light; sub-basal line outwardly oblique, straight from costa to lower median, then along lower median outwardly, then somewhat incurved and continued to inner margin; antemedial line from costa to inner margin nearly parallel to sub-basal, excurved between costa and 1 b, then straight and oblique to inner margin; medial line from near costa and just touching the reniform, which is large, round and brownish-drab (xlv), in ♀ less distinct; medial line then well incurved as far as sub-median fold, then straight and outwardly oblique to join postmedial line at 1 b; all these lines, a ring around the reniform and the postmedial line of ground colour; sub-basal line on inner side, antemedial line on outer side, and postmedial line on both sides rather darker edged with orange-cinnamon irroration; postmedial line nearly straight and inwardly oblique, slightly excurved at vein 6, gently incurved between 6 and sub-median fold, then somewhat excurved above 1 b and joining median line; a sub-terminal slightly irregular, faint line, consisting of blackish scales and preceded by a line of ground colour, the blackish line somewhat excurved between 4 and beyond 3; cilia of ground colour, in ♂ tipped with black scales, in ♀ blackish at base.

Hind wing with costal area, terminal half, inner marginal area and lower median thinly irrorated with orange-cinnamon; cilia whitish with a few orange-cinnamon scales.

Under side: fore wing pale vinaceous-fawn; costa narrowly and termen broadly tinged with sayal-brown (xxix); cilia as on upper side; hind wing uniform pale vinaceous-fawn.

Exp. ♂, 32 mm.; ♀, 34 mm.

Hab. ♂ and ♀ type from Salisbury 8-10. 2. '17, bred by Mr R. Jack, who kindly presented three specimens to me.

ICHTHYURA VIOLACEARIA spec. nov.

(Pl. XIII, figs. 5, 6.)

♂. Head, palpi, thorax, hairs on legs and ground colour of fore wing vinaceous-lilac (xlv), more or less densely, but finely, irrorated with morocco-red (i); fore wing with the transverse lines of ground colour and only faintly visible on account of morocco-red irroration; this irroration is very dense before postmedial line between the costa and vein 1 b; sub-terminal line very

indistinct, oblique; antemedial line indistinct, preceded by a faint light line; medial line indistinct, morocco-red, straight from costa along discocellulars, then curved inwardly beyond origin of vein 2, then obliquely curved to post-medial line at inner margin; a faint dark round reniform beyond discocellulars; postmedial line slightly undulating, inwardly oblique, most distinct of all lines and preceded by a faint darker line of morocco-red; beyond this line the morocco-red irroration has practically ceased so that this area has a beautiful, shiny vinaceous-lilac tinge, which is more or less continued between 1b and inner margin; sub-terminal line, from costa to tornus, consists of some irregular morocco-red scaling between the veins; similarly the terminal line is indicated, but much more faintly; cilia vinaceous-lilac, gradually getting darker towards the tips; hind wing pure white, with the basal half hardly and the terminal half more densely irrorated with sorghum-brown (xxxix); cilia white.

Under side of both wings white; fore wing and abdomen tinged with vinaceous-tawny (xxviii); cilia as above; hind wing slightly irrorated with vinaceous-tawny along costal area, abdomen above fawn coloured (xl).

♀. Fore wing as in ♂ along inner margin and beyond sub-terminal line, but beyond medial line from below lower median a triangular patch of lobelia-violet (xxxvii) densely irrorated with morocco-red before and less densely beyond postmedial line, which passes through it; upper edge of this triangle incurved and on terminal side connected with a similarly coloured shading before sub-terminal line, this patch extends from vein 4 to vein 8; the medial corner of this triangle is connected to the rounded and more distinct reniform by an oblique fascia; area, as far as sub-terminal line, not occupied by the lobelia-violet colour, with the ground colour ochraceous-buff (xv) (as also indicated in one of the ♂s) and densely irrorated with morocco-red; hind wing of cream colour (xvi), terminal half ochraceous-buff and thickly irrorated with morocco-red; apical part of costa coloured like cilia of fore wing; cilia cream coloured with some dark scaling here and there.

♀. *var.* Ground colour of fore wing, head, thorax, abdomen and legs avellaneous (xl), somewhat violaceous on inner and terminal area of fore wing as indicated by the general markings of the typical ♀; here and there some lighter and darker irroration on the thorax and the fore wing; transverse lines and orbicular absent; cilia of both wings of same colour as the wings.

In this species the venation of the hind wing is slightly different from what it is in the other species, 3 is from $\frac{2}{3}$ rd 2 to 4, the stalk of 6, 7 is somewhat shorter, about $\frac{1}{3}$ th of 7; the typical ♀ and one ♂ also have four slight crests on the abdomen which are somewhat hidden in the long hairs in the ♂; the ♂ has also a forked anal tuft of hairs.

Exp. ♂, 33 mm.; ♀, 42 mm.; ♀ *var.*, 40 mm.

Hab. ♂ type, PINETOWN (Natal), 23. 6. '17; ♂ cotype, MALVERN (Natal), 30. 3. '17; ♀ type, KRANTZKLOOF (Natal), 12. 6. '16 (all bred by Mr E. E. Platt). ♀ *var.*, PRETORIA, 14. 7. '06 (bred, Janse).

Larva feeds on *Protea multibracteata* Phillips; pupates in a loose silken cocoon between the leaves of the food plant (E. E. Platt).

Genus PECTINOPHORA nov.

(Pl. I, fig. 7; Pl. II, figs. 11-17.)

Type *noctuiiformis*.

♂. Proboscis well developed; palpi upturned, reaching vertex of head; first joint much curved and with long hairs in front; second joint about two times first joint, nearly straight, covered with hairs and scales, which are

rather long in front; third joint short, about half first joint, somewhat oblique; eyes large, rounded, naked; frons oblique and with a tuft of moderate stiff hairs; thorax without crests and covered with hairs and hairlike scales; abdomen with lateral tufts of hairs at each segment; antennae a little over half of costa, bipectinated till tip, branches about six times shaft, somewhat curved forwardly at the tips and ciliated on both sides; first joint of shaft with a tuft of hairs; fore tibia with a twisted process nearly reaching end of tibia and almost hidden in the long hairs; femurs of all legs and of fore legs especially covered with long hairs on inner side, with scales at the sides; two spurs on the mid tibia, four spurs on hind tibia; spurs about $\frac{1}{3}$ rd of tibia in length, outer spurs $\frac{1}{3}$ rd shorter than inner and all covered with hairs and hair-like scales and ending in a somewhat curved smooth point; tarsi with spines on inner side.

Fore wing broad, sub-triangular; costa straight; apex somewhat rounded; termen nearly erect, curved and somewhat sinuate; tornus rounded; inner margin with a round lobe at basal half on which are two triangular tufts of scales and a small tuft just beyond postmedial line; 1*b* simple at base, curved; 2 from $\frac{2}{3}$ rd lower median, curved; 3 from $\frac{1}{3}$ th 2 to 4 and curved; 4 from lower angle, curved; 5 from just above middle of discocellulars; discocellulars outwardly oblique, nearly straight; 6 from below upper angle; areole long, rather narrow; 7 from end of areole; stalk of 8, 9, 10 from end of areole; 9 from just beyond half distance end of cell to apex; 10 from $\frac{1}{3}$ rd of stalk; 11 from about $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing triangular; costa well arched; apex rounded; outer margin very oblique and well rounded, slightly sinuate; tornus rounded; inner margin nearly straight except at 1*a* where it is slightly lobed; 1*a* straight, moderate; 1*b* somewhat curved; 2 from well beyond half of lower median; 3 from $\frac{1}{3}$ th 2 to 4; 4 from lower angle; 5 rather weak and from above middle of discocellulars; discocellulars outwardly oblique; 6 and 7 stalked for $\frac{1}{5}$ th of whole of 6 and from upper angle; upper median well curved; 8 curved at base, then curved towards upper median at $\frac{1}{3}$ rd and running parallel with it till $\frac{2}{3}$ rd, beyond this it is connected with the upper median by a rather long oblique bar, then curved towards apex.

This genus is near to *Hyperaeschra* from which the fore wing differs in the more erect outer margin, shorter wing-length, the two tufts on the inner margin and veins 3 and 4 of both wings being farther apart and 6 of fore wing being remote from the areole. From *Lophopteryx* it differs in the upturned palpi, position of vein 6 of fore wing, and less sinuate outer margin.

PECTINOPHORA NOCTUIFORMIS spec. nov.

(Pl. XIII, fig. 7; Pl. I, fig. 7; Pl. II, figs. 11-17.)

♂. Hairs on head, thorax and fore legs, fore wing as far as postmedial line and along the whole costa shiny fuscous-black (xlvi); mid and hind legs fuscous-black; tarsi ringed with ivory-yellow (xxx); abdomen on upper and under side hair-brown (xlvi); fore wing with a faint basal black line; medial line single from costa to lower median, then double and black, double lines filled in with russet (xv) and preceded by some french-grey (lii) scales; the medial line is oblique from costa and rounded along discocellulars, where there is some black scaling, then oblique to inner margin at tuft of scales, forming a tooth inwardly just below lower median and at 1*b*; both lines fuscous-black, preceded by some french-grey scales; two fine black lines in cell from near base to discocellulars, lower line shortest; a fine black line on terminal half of lower median and another below it from base to russet scaling and where the inner

median line is very faint; most veins indicated by black between medial and postmedial lines; postmedial line consisting of a series of four lines, from costa oblique to 7 where they are curved inwards to vein 5, somewhat excurved on vein 3 and then oblique to inner margin; first line black, second warm buff (xv), third fuscous from costa to vein 6, then indistinct to vein 4, then russet, fourth line french-grey, represented by some scales only from costa to vein 4; veins beyond postmedial line irregularly scaled with black and french-grey; costal area beyond postmedial line and above vein 7 fuscous-black; area between 7 and 2 russet, with a warm buff line in the middle which is dentated inwardly on the veins and followed by some warm buff sub-terminal lunules between veins 2 to 7, and edged terminally by some black scales; between 1b and 2, and 7 to 9 these lunules are only represented by black scales; area below vein 2 french-grey; a very narrow sinuate black terminal line with french-grey points on end of veins; cilia fuscous-black. Hind wing cartridge-buff, terminal half thickly irrorated with fuscous; inner marginal area with long cream-buff (xxx) hairs; cilia fuscous, tipped with cartridge-buff scales.

Under side cartridge-buff; fore wing very densely irrorated and suffused with fuscous; hind wing with some fuscous irroration along costa; cilia as above but lighter; shaft of antennae fuscous-black, branches russet; abdomen at base with some fuscous-black long hairs in middle and cartridge-buff hairs at sides.

Exp. ♂ type, 36 mm.; 2 ♂ cotypes and 9 other ♂s.

Hab. All the specimens were collected at UMTALI (S. Rhodesia), from 5—15. 1. '18. I have seen no other specimens of this species in other collections.

In general appearance this species resembles very much the figure of *Lophopteryx saturata* given in Hampson's *Moths of India*, vol. 1. fig. 102, except that the hind wing of that species shows strigae at the tornus of the hind wing and of these not a trace is seen in *noctuiformis*.

Genus LOPHOPTERYX.

(Pl. I, fig. 8; Pl. II, figs. 18—23.)

Lophopteryx Steph. *Ill. Brit. Ent. Haust.* II. p. 26 (1892). Type *camelina*.

Hmps. *Moths of India*, I. p. 166.

Spuler. *Schmett. Eur.* I. p. 98.

Schaus. *Trans. Ent. Soc. Lond.* p. 328 (1901).

Pack. *Mem. of the Nat. Acad. of Sciences*, VII. p. 154 (1895).

Description made from *L. uniformis*.

♀. Proboscis present but rather short; palpi short, porrect, just reaching frons, covered with scales, hairs and hair-like scales; first joint short; second joint about half length of palpus, slightly curved; third joint roundly pointed, nearly half of second joint; frons rounded; eyes naked, round, about as large as length of palpi; antennae with a small tuft at base; shaft short, less than half of costa, very much curved, bipectinated till tip; branches about three times shaft, bluntly pointed and covered with rather long cilia which stand rather far apart; fore tibia with a process reaching till end of tibia; this process is somewhat cylindrical and hollow at base, then, at before half its length it flattens and broadens so as to become leaf-like, then curved, with the apex roundly pointed, the outer side of the process is covered with scales and hairs and the edges of the leaf-like part have bristle-like hairs, the hollow side is towards the tibia; mid tibia with two spurs, hind tibia with median spurs as well; the longer inner spurs are about $\frac{1}{3}$ rd of tibia, the outer spur is about $\frac{1}{3}$ rd

shorter, they end in an acute inwardly curved point and the remainder length is covered with scale-like hairs; femora of all legs, especially those of hind legs, rather thinly clothed with long hairs; tibiae more thickly covered on outer side; tarsi of mid and hind legs with some bristles on inner side and covered with hairs and scales.

Fore wing broad; costa straight; curved at and beyond vein 11; apex rounded; termen erect, crenulate; tornus sharply rounded; inner margin with a large rounded lobe at basal half on which is a large tuft of hairs; another but smaller tuft of hairs beyond postmedial line; 1*b* somewhat curved and indistinctly forked at base; lower median curved upwardly; 2 from $\frac{3}{4}$ th lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle and well curved; 5 from middle of discocellulars and somewhat weak; discocellulars erect, curved below and above vein 5; 6 from areole at $\frac{2}{3}$ th of areole; areole very long, about half length of vein 10, narrow; 7 from end of areole; 8, 9, 10 stalked; 9 from 8 at $\frac{1}{3}$ rd whole length of 8; vein 10 from stalk of 8, 9 at little beyond areole; 11 from upper median at $\frac{3}{4}$ th, upper median curved upwards; 12 parallel to costa.

Hind wing sub-triangular; costa curved; apex well rounded; termen oblique, well rounded, crenulate; tornus rounded; inner margin straight; 1*a* and 1*b* slightly curved; 2 from lower median at $\frac{3}{4}$ th; 3 from $\frac{3}{4}$ th 2-4; 4 from lower angle, well curved; 5 rather weak and from above middle of discocellulars; upper discocellular erect, lower oblique and both somewhat curved; an indistinct veinlet into the cell beyond vein 5; 6 and 7 from upper angle, stalked for about length of upper discocellular; upper median well curved; 8 gently curved at base, then downwards to approach and run parallel with terminal half of upper median, then curved upwards to apex; at before half of upper median there is an indication of a bar on this vein and vein 8.

I have little doubt that my specimens have to come in this genus, though in this species the antennae are well pectinated, even in the ♀, while in the other species of *Lophopteryx* they are serrate in the ♂; all other characters agree so well, that I keep the South African species here. The figure of the wing venation given by Packard differs in a few characters from my specimens; it has the areole much shorter, 6 shortly stalked in the fore wing and no veinlet in the cell, and the inner margin has a pointed lobe; in the hind wing the outer and inner margins are not as straight and the stalk of 6, 7 is shorter in my specimens. The illustration of the fore leg differs from mine in the tarsi and the process being much shorter in the American species, but it is not possible to recognise the shape and structure of this process even in the denuded specimen.

LOPHOPTERYX UNIFORMIS.

(Pl I, fig. 8; Pl. II, figs. 18-23.)

Lophopteryx uniformis Swinh. *A.M.N.H.* 7. XIX. p. 208 (1907).

The description given by Swinhoe is rather short but fits my specimens in every respect, except that the dorsal side of the abdomen is not whitish tinged with pink in my specimens, but more yellow. There are, however, several details that can be seen which have been omitted. I therefore give a fairly full re-description of my specimens.

♀. Head, thorax, fore wing, tibiae and femora of all legs bone-brown (xl), the thorax and the fore wing here and there tinged with chestnut (ii); shaft of antennae bone-brown, pecten clay colour (xxix); abdomen above cinnamon-buff (xxix) slightly tinged with hair-brown (xlvi), on under side nearly entirely hair-brown; two white spots on meso-thorax. Fore wing with a white spot at base above 1*b* and a few white hairs below it; antemedial line blackish, pre-

ceded by antimony-yellow (xv) faint lunules and some scales of same colour, beyond it above lower median and as far as discocellulars, beginning at $\frac{1}{3}$ rd of costa, then well curved outwardly and then obliquely inwardly to inner margin, where it ends in a few antimony-yellow scales at base of first scale tooth; postmedial line blackish and followed by irregular antimony-yellow lunules and with some similar scaling before it between 2-4, and 5-6 and again beyond it between veins 3-4; the line begins at $\frac{2}{3}$ rd of costa, runs then nearly parallel to costa for half the distance to apex, then oblique and nearly straight to base of second scale-tooth, very much dentated outwardly at veins 2-8; sub-terminal line represented by a series of black spots between veins 3-8, preceded by some yellow scaling; cilia of ground colour, but with a lighter base. Hind wing cartridge-buff (xxx), exterior half gradually shaded with hair-brown, most intensely at outer margin; cilia cartridge-buff, tinged with hair-brown. Under side: tarsi cartridge-buff ringed with bone-brown; fore wing uniform hair-brown; cilia hair-brown at base, then bone-brown and with a few cartridge-buff scales between the veins indicating a semilunar line; hind wing as on upper side.

Exp. 62 mm.

Hab. UMTALI (S. Rhodesia), 9. I. '18 (Janse).

Genus PSEUDORETHONA.

(Pl. I, fig. 9; Pl. III, figs. 1-6.)

Type *albicans* Wlk.

Pseudorethona gen. nov.

♂, ♀. Proboscis very rudimentary; palpi short, scarcely as long as width of eye, porrect; first and second joints of equal length; third joint $\frac{1}{3}$ rd of second, globular, covered with long, spreading hairs; eyes large, rounded, glabrous; antennae bipectinate as in *Cerura* but branches shorter, about four times shaft, gradually getting shorter towards tip; basal part of shaft as in *Cerura*; fore tibia with a process as in *Cerura* but slightly shorter and more straight; mid tibia with two terminal pointed spurs of about $\frac{1}{4}$ th of tibia in length; hind tibia with two pairs of pointed spurs about $\frac{1}{3}$ rd of tibia in length; spurs rather long and thin, with two very short rows of short teeth near apex only; all legs covered with long, spreading hairs; tarsi with hairs and scales; mid and hind tibiae with small scale tufts at middle and terminus.

Fore wing rather long and narrow; costa evenly incurved; apex rounded; termen oblique, evenly curved; tornus well rounded; inner margin somewhat lobed near spur of 1*b*; 1*b* with a fork at base and a spur which, however, does not reach inner margin; 2 from $\frac{2}{3}$ th lower median; 3 from $\frac{2}{3}$ th distance 2 to 4; 4 from lower angle; 5 rather weak, from above middle of discocellulars and with an indication of a continued veinlet in the cell; 6 from end of areole, which is nearly 4 times the breadth; 7 from $\frac{1}{3}$ rd stalk of 8, 9; 8 and 9 on a stalk of $\frac{2}{3}$ rd 8, originating from end of areole; 10 from just before end of areole; 11 from $\frac{2}{3}$ rd upper median, somewhat curved inwardly near areole; 12 parallel to costa.

Hind wing sub-triangular; costa nearly straight; apex rounded; termen well rounded; tornus with a rounded lobe at 1*b*; inner margin evenly curved; 1*a* and 1*b* nearly straight; 2 from lower median at $\frac{2}{3}$ rd; 3 and 4 from lower angle; 5 faint, but distinct, from well above middle of discocellulars; discocellulars oblique and faint; 6 and 7 on a stalk of nearly half of 6; 8 a little upcurved till $\frac{1}{3}$ rd upper median, where it has a little bulge to suggest rudiments of a bar, then approximated and parallel to near end of cell, then upcurved towards costa.

The type of this genus has been placed by Walker in *Rethona*, but Sir George Hampson kindly informed me that this genus, of which *strigosa* is the type, has to come in the **Limacodidae**. *R. albicans*, Wlk. was placed by Prof. Aurivillius in the genus *Cerura* when he identified some of my specimens, but the presence of four spurs on the hind tibiae is sufficient to remove this species from *Cerura*. I have therefore been obliged to create another genus for it.

There are, however, many points of resemblance between this genus and *Cerura*; the venation on the whole, the process of the fore tibia, the shape of the spurs, the pectination of the antennae and the type of marking on the fore wing all point to close relationship.

PSEUDORETHONA ALBICANS.

(Pl. I, fig. 9; Pl. III, figs. 1-6.)

Rethona albicans Wlk. *Cat. v. p.* 1043 (1855).

The description given by Walker is very short and much too vague, so I think it useful to re-describe the species.

♂. Whole insect pure white; hairs on frons, on palpi and at sides of head fuscous (xlvi); thorax, and fore wing at basal, medial area, and postmedial area above vein 6, light patch at apex and tornus tinged with pale dull green-yellow (xvii); lines on head, thorax and wings black; a few black scales on frons and before antennae; patagia and tegulae edged with black; a crest beyond each tegula and tipped with black; a central crest on metathorax also tipped with black; abdomen above hair-brown (xlvi). Fore wing with a broad basal line from costa till *1b*, dentate on the veins; a double sub-basal line from costa to inner margin, curved and much angled at the veins, space between them pure white; antemedial line double, more erect, very much angled and dentated on the veins, and space between them pure white, lines farther apart near costa than at inner margin; space between outer sub-basal line and inner antemedial line, densely irrorated with black except a round spot in the cell which is tinged with pale dull yellow-green; medial line double, broad near costa, as is the case in the outer antemedial line, then narrow; inner line parallel to outer antemedial as far as vein 2, then touching antemedial and forming between them a round spot tinged with the light greenish, a black irroration between the lines at inner margin; outer medial line curved outwards below costa touching outer side of orbicular, which consists of two black strigae filled in with the pale greenish, then almost straight to vein 2, then dentate inwardly on plical fold and *1b* and touching antemedial at inner margin; postmedial beginning as a broad oblique streak from before apex, which is sharply defined on the outer side, then a little narrower and less defined to near medial line at vein 4, then outwardly oblique to vein 2, then curved inwards to plical fold, then curved outwards above *1b*, then erect to inner margin; a black irroration beyond it reaching the termen between veins 7 and 2 except for a triangular patch from vein 7 to 6 which remains tinged with the pale green; a black irroration at tornus below plical fold; a black fine terminal line, rather thicker between the veins; cilia white, tinged with pale green and checkered with black between the veins.

Hind wing pure white, except some fuscous black scaling at the tornus; a fine fuscous-black terminal line interrupted by the white at the veins; cilia white.

Under side: wings, thorax and abdomen and hairs on legs pure white; tarsi black, ringed with white; fore wing with costa broadly edged with black and with some white irregular marks at basal, antemedial, medial, and postmedial areas; terminal half of wing from costa to vein 2 irrorated with fuscous, only

leaving an apical elongate white patch; both wings with a terminal black line; cilia of both wings as above; hind wing with a diffused fuscous costal shading at antemedial and medial areas; a well-defined costal postmedial fuscous patch; a faint fuscous striga on discocellulars and a very faint fuscous postmedial line.

♀. Like ♂, but postmedial line much more incurved and more densely irrorated with fuscous, hind wings tinged with cinnamon-brown (xv); all lines less defined; under side, the whole fore wing is suffused with cinnamon-brown except some terminal and apical white patches; hind wing with terminal half suffused with cinnamon-brown except near termen; and the postmedial line which is left white; basal half irrorated with cinnamon-brown; striga on discocellulars and terminal line cinnamon-brown.

Exp. ♂, 31 mm.; ♀, 37 mm.

Hab. I have this species from Pretoria, Oct., Febr.; Three Sisters (Barberton distr.), Febr.; from Natal, at Karkloof, Verulam, Umkomaas in Jan.; from S. Rhodesia, Umtali, Jan.

Larva feeds on *Trimeria alnifolia* Planch, and *Grewia lasiocarpa* E. M. Constructs a tough cocoon on stem of food plant (E. L. Clark).

Genus CERURA.

(Pl. I, fig. 10; Pl. III, figs. 7-9; Pl. V, figs. 1-3.)

Cerura Schrank. *Fauna Boica*, II. 2. Abth. p. 155 (1802). Type *furcula*.

Wlk. *Cat. v. p.* 982 (1855).

Hmps. *Moths of India*, I. p. 155 (1892).

Pack. *Mem. of the Nat. Acad. of Sciences*, VII. p. 263 (1895).

Meyr. *Handbook Brit. Lep.* p. 310 (1895).

Schaus. *Trans. Ent. Soc. Lond.* p. 288 (1901).

Spuler. *Schmett. Eur.* I. p. 91 (1908).

Description made of *spiritalis*.

♂, ♀. Proboscis almost absent; palpi short, about breadth of eye, porrect; first and second joint of equal length; third joint about $\frac{3}{4}$ th of second joint; all joints covered, especially first and second on under side, with long hairs; eyes large, round, glabrous; antennae nearly half of costa, bipectinate till tip; first joint of shaft sub-globular, with a tuft of long hairs on inner side, second joint without any pectination; branches six to eight times shaft, for about $\frac{2}{3}$ rd, apical third with shorter branches in both sexes, in ♀ the branches are often only three times shaft or less; branches broad in middle, pointed at the ends, rough on the surface and sparsely covered with short hairs, some bristle-like hairs at tip; fore tibia with process reaching beyond tibia; process curved at $\frac{2}{3}$ rd, covered on outer side with short hairs; mid and hind tibiae with one pair of terminal spurs only, which are sharply pointed and as long as $\frac{1}{3}$ rd of hind tibia; femora and tibiae covered with hair mixed with a few scales; two small tufts of scales at middle and end of mid and hind tibiae; tarsi densely covered with scales. Fore wing broad, over half; costa straight in ♂, or nearly so, often gently excurved in ♀; apex well rounded; termen even and gently curved; tornus curved; 1a forming a fork with 1b and continued as a spur to inner margin; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; discocellulars oblique; 5 from middle of discocellulars; 6 from middle of areole; 7 stalked with $\frac{1}{3}$ rd of stalk, 8, 9¹; 8 and 9 stalked for half

¹ In most other species of *Cerura* 7 comes from end of areole, but in *C. swierstrae* this vein comes in some specimens from end of areole and in others from beyond middle of areole, which is in that case usually longer.

of 8; 10 from well before upper angle, anastomosing with stalk of 7, 8, 9 to form an areole which is about four times as long as broad; 11 from upper median at before $\frac{5}{8}$ th; 12 almost parallel to costa.

Hind wing semicircular in shape; costa well arched; apex rounded; outer margin arched, slightly sinuate; tornus well rounded; inner margin straight; 1a and 1b nearly straight; 2 from $\frac{3}{4}$ rd lower median; 3 and 4 from lower angle¹; 4 curved; 5 from middle of discocellulars, which are erect; a distinct forked veinlet in cell; 6 and 7 on a stalk of nearly $\frac{1}{3}$ rd of 6; 8 almost parallel to upper median and approximated at before middle where both veins form a knob indicating a bar.

This genus has a good number of species in the Northern hemisphere and a few species are also found in South America and Australia. It is therefore interesting to note that not less than six species are now known from South Africa. The species of this genus are generally white or grey (*esmeralda* is light bluish-green) with black markings. The South African species may be tabulated as follows:

- | | | | |
|------|---|---------------------|--------|
| 1 a. | Ground colour of fore wing light bluish-green | esmeralda | p. 172 |
| b. | Ground colour of fore wing white | | 2 |
| 2 a. | Hind wing with a terminal dark band on upper or under side | | 3 |
| b. | Hind wing without such a band | | 4 |
| 3 a. | Hind wing with terminal band on under side giving a dark shade on upper side | bifasciata | p. 171 |
| b. | Hind wing with the terminal band on both sides | spiritalis | p. 173 |
| 4 a. | Base of fore wing till antemedial line suffused with black, postmedial line distinct, double | argentescens | p. 171 |
| b. | Base of fore wing white, at most with a few black speckles; postmedial line indistinct or absent | | 5 |
| 5 a. | A distinct antemedial black band from costa to inner margin; cilia of both wings checkered with black scales | marshalli | p. 173 |
| b. | No distinct antemedial line, at most some black scales at costa and inner margin; cilia white, though beyond the terminal black spots a few black scales may mix with the cilia | swierstrae | p. 173 |

CERURA ARGENTESCENS.

Cerura argentescens Hmspn. *A.M.N.H.* 8. v. p. 458 (1910).

Hab. Natal (Lidgeton). I have not seen this species yet².

CERURA BIFASCIATA spec. nov.

(Pl. XIII, fig. 8.)

♀. Head, thorax, base of abdomen on upper and nearly whole of abdomen on under side, and ground colour of wings on both sides pure white; frons at sides, hairs of palpi, and branches of antennae fuscous-black (xlvii); shaft of

¹ Some specimens of *spiritalis* have 3 from $\frac{4}{5}$ th 2 to 4 and 4 from lower angle, while some have one wing normal and the other wing abnormal.

² Since writing the above, I have seen two specimens in the collection of the South African Museum, one of which bears a label in Hampson's own handwriting and is identified as *Cerura argentescens* Hmspn. These specimens agree in every way with the description, but on the other hand it is not a *Cerura* as the median spurs are present on the hind legs, and I find it moreover indistinguishable from *Pararethona hierax* ♂. The other specimen is also clearly a ♀ of *P. hierax*. I consequently think that *C. argentescens* has to be sunk as a synonym of *P. hierax*, though I refrain from doing so until I have seen the type specimen.

antennae with white scales; legs ringed with fuscous-black; a small black spot on head in the middle near the thorax; a transverse fascia on thorax of black and shiny bluish slate-black (xlvi) scales; a similar but narrower line of scales on metathorax; abdomen on upper side, except basal part, covered with bluish slate-black scales mixed with a few whitish scales.

Fore wing: all markings black; a few black scales at base below lower median and a small sub-basal patch on lower median; an interrupted sub-basal line from costa to inner margin, interrupted in cell and at $1b$; an antemedial black broad fascia from costa to inner margin, inner edge indented at vein 12 and upper median, excurved in cell, indented at plical fold and $1b$, outer edge somewhat excurved at the veins with a sharp dent at plical fold and below $1b$; medial line indicated by a black spot at costa and three strigae below lower median; a black mark below it, a faint striga in cell and a distinct black striga on discocellulars; postmedial line interrupted, double and irregular, beginning on costa as a broad triangular patch, then both lines faint on the veins, angled outwards at 3, 2 and $1b$; a sub-terminal distinct, continuous, irregular line from apex to near tornus, broad from costa to beyond vein 3, then narrow except between $1b$ and 2 where it becomes confluent with a fuscous (xli) irroration at tornus, very much angled inwards at vein 8, 6, 5, 4 and between 2 and $1b$, outwards above vein 8, between 6 and 7, and just above 3, 2, $1b$; a terminal series of spots, two between $1b$ and 2, and one between the veins 2 to 9; these spots are continued with brussels-brown (iii) scales into the cilia which are otherwise white.

Hind wing: an elongate patch of black scales on middle of $1b$; a fuscous diffused mark at upper discocellular; some fuscous-black scales at tornus; in the cilia broad fuscous patches between the veins, two between $1b$ and 2, and one between the other veins; markings of under side somewhat visible through the white on upper side.

Under side white. Fore wing on costa with elongate markings on basal, sub-basal, antemedial, medial and a postmedial area, first mark black, the others gradually becoming fuscous; a diffused fuscous mark at discocellulars and a diffusion in cell before it; postmedial band broad, ill-defined, fuscous, ending just beyond vein 2; sub-terminal and terminal area thickly suffused with fuscous, except at costa where a few white marks are left; checkered fuscous patches on cilia as on upper side. Hind wing with a black discocellular ovate patch, indicating postmedial line, from costa till vein 5; terminal band and cilia as on fore wing; abdomen with last segment covered with fuscous-black hairs.

The palpi of this species are very short.

Exp. 56 mm.

Hab. Southern Rhodesia. Only one specimen, kindly presented to my collection by the Bulawayo Museum, unfortunately without further data as to locality or date of collection.

The species comes perhaps nearest to *spiritalis*.

CERURA ESMERALDA.

Cerura esmeralda Hmps. *A.M.N.H.* 8. v. p. 458 (1910).

Two ♂s and two ♀s in my collection from Pretoria, Febr. '14; Oct. '09, '14; Salisbury, Febr. '16.

Mr K. Munro bred the Pretoria specimens from caterpillars feeding on *Protea* spec. Bred by E. E. Platt on *Protea hirta* Klotzsch, and *P. multi-bracteata* Phillips. Constructs a tough cocoon on stem of food plant.

CERURA MARSHALLI.

Cerura marshalli Hmps. *A.M.N.H.* 8. v. p. 456 (1910).

I have a ♂ and ♀, both from Salisbury, bred in Dec. '12 by Mr R. Jack, who kindly presented them to me. In the ♂ the outer margin of the fore wing is very oblique and the wing very narrow.

CERURA SPIRITALIS.

(Pl. I, fig. 10; Pl. III, figs. 7-9; Pl. V, figs. 1-3.)

Cerura spiritalis Dist. *A.M.N.H.* 7. III. p. 464 (1899).

This species I have from Rietfontein 57 (Pretoria distr.) bred by me in Jan. 1905; also from Barberton (collected by Miss de Beer); White River (Cooke); Pretoria in Nov. '14 (Munro); only one ♀ is known to me.

CERURA SWIERSTRAE.

Cerura swierstrae Dist. *Entom.* xxxv. p. 213 (1902).

Two ♂s and one ♀ in my collection from Johannesburg (Sept. '04, Cooke); Pretoria (Sept. '08, Munro); Umkomaas, Natal, Jan. '14 (Janse).

The three specimens are practically the same, but the Johannesburg specimen has more black in the inner margin of the fore wing.

Genus PARARETHONA nov.

(Pl. I, figs. 11-16.)

Type *Desmeocraera hierax* Dist.

♂, ♀. Proboscis rudimentary; palpi short, porrect, not reaching vertex, covered with long spreading hairs; first joint as long as second and third joint together; third joint almost half of second joint; eyes large, glabrous, rounded; frons with a tuft of long hairs; antennae about half of costa in length, bipectinated for $\frac{3}{4}$ th their length, then ciliated; branches in ♂ about ten times shaft, ciliated on both sides, in ♀ about eight times shaft, in both sexes the branches are in shape as in *Cerura* and *Pseudorethona*; base of shaft globular and with a long tuft of hair in front; fore legs with a bluntly rounded straight process, nearly reaching till end of tibia; mid legs with two spurs; hind legs with four spurs of nearly equal length; shape of spurs as in *Cerura* and *Pseudorethona*, only more pointed and more strongly serrate on inner side and the serrae in two rows; in all legs the femurs and tibiae are covered with long spreading hairs. Fore wing in ♂ rather narrow and triangular, costa nearly straight, apex slightly rounded, termen oblique, slightly rounded, tornus rounded, inner margin nearly straight; in ♀ the fore wing is broader, costa gently arched, termen less oblique; 1 b with a fork of $\frac{1}{3}$ rd; vein 2 from $\frac{3}{4}$ th lower median; 3 from $\frac{2}{3}$ rd distance 2 to 4; 4 from lower angle; discocellulars oblique, incurved between 4 and 5; 5 from below lower angle; 6 from towards end of areole (in three ♂ specimens it is from stalk 7, 8, 9; in one ♂ specimen the areole is absent in left wing and present in the right wing, 6, 7, 8, 9, 10 are then stalked); 7 stalked with 8, 9 for $\frac{1}{3}$ th of its length; 8 and 9 on a stalk of over half of vein 8, originating from end of areole; 10 from $\frac{3}{4}$ th areole; 11 from before $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing triangular with the corners well rounded; costa well arched; termen very oblique and well rounded; inner margin well rounded; 1 a and 1 b slightly curved; 2 from $\frac{2}{3}$ rd lower median; 3 and 4 from lower angle;

discocellulars angled between 4 and 5; 5 from above middle of discocellulars; 6 and 7 on a stalk of nearly half of 6; 8 first curved upwards, then approximated to upper median for terminal half, but not connected with it by a bar.

This genus is evidently related to *Cerura* and *Pseudorethona* and probably a parallel development of the former. It differs from *Cerura* in having 4 spurs on the hind legs and from *Pseudorethona* in the absence of the tuft of scales on the mid and hind tibiae, absence of the spur on 1*b* in fore wing; the branches of the antennae being longer but not reaching towards tip; in first joint of palpi being longer than second joint.

Only one species is known to me for this genus, which was placed by Distant in the genus *Desmeocraera*. From this genus it differs, however, in the following details: presence of areole, origin of vein 6, palpi, and other minor points.

PARARETHONA HIERAX.

(Pl. I, figs. 11-16.)

Desmeocraera hierax Dist. *A.M.N.H.* 6. xx. p. 204 (1897).

Dist. *Insecta Transv.* iv. p. 88, Pl. IV, figs. 3, 4.

In front of me are three ♂s belonging to the Transvaal Museum, which have been identified by Distant shortly after the description was made of a specimen which has the discoidal spot missing. This spot is mentioned in the description, but is absent in the figure. There are several other points in which the description and the figures do not correspond, but the figures are for certain identical with my specimens. The terminal dark, fuscous colour on the abdomen (though not shown in the ♂ figure, in which the abdomen is evidently greasy) is very characteristic for this species, though not mentioned in the description by Distant. I have no doubt that my specimens belong here, though I have only two ♀s, in addition to the ♂s mentioned above, which are quite like fig. 4, and are both from Pretoria. I have also a variety of this species, two ♂s and one ♀, while a ♂ of this var. is also in the Transvaal Museum collection.

Pararethona hierax, var. *dissimilis* var. nov.

♂. Head and palpi with long fuscous (xlvi) hairs; branches of antennae fuscous; vertex of head, thorax on upper and under side, hairs on femurs and tibiae fuscous mixed with pale green-yellow (v); abdomen on upper side for $\frac{1}{3}$ rd and towards terminus, and the whole of the abdomen on the under side with pale drab-grey (xlvi) hairs; about $\frac{2}{3}$ rd of abdomen on upper side with hair-brown (xlvi) hairs.

Wings on upper and under side white; base, as far as sub-basal line, sparsely irrorated with cinnamon-drab (xlvi) scales; sub-basal line double, inner one cinnamon-drab, outer line black, dentate inwardly at upper median, below lower median and 1*b*; antemedial line black, with a pale yellow-green shade beyond it, curved outwardly between costa and upper median, angled outwardly between lower median and 1*b* and towards inner margin; space between sub-basal and antemedial lines thickly irrorated with hair-brown scales and sparingly irrorated with black scales; postmedial line double, black, excurved at vein 6 and 3, incurved at 5 and 2, then to before tornus; space between antemedial and postmedial lines sparingly irrorated with hair-brown scales; at costa four dark markings and the irroration more dense; a dark irroration beyond postmedial line at costa and tornus; indications of a subterminal line of hair-brown irroration; a more sparing irroration over the whole area beyond postmedial line; terminal line black, somewhat interrupted at the veins, where there is a dark inwardly black shading; cilia white with hair-brown scales at base.

Hind wing with a few hair-brown scales as costa; a fuscous terminal line, interrupted at the veins; a black patch at tornus and an oblique faint fuscous shading above it; cilia pure white.

Under side: costa of fore wing thickly irrorated with fuscous, except towards apex, where there are 4 white patches; nearly the whole area irrorated with hair-brown; only the terminal line present; hind wing with a hair-brown mark from costa to fork of veins 6, 7; otherwise as on upper side.

♀. Like ♂, but irroration more black; band between sub-basal and ante-medial lines much darker and a dark shading beyond postmedial line; a distinct fuscous medial line, angled outwards below upper median and lower angle; a black patch of scales at discocellulars between 4 and 5; a white sub-terminal shading, angled outwards at the veins; a white band against the terminal black line; cilia checkered with fuscous and with a distinct basal line; hind wing thickly irrorated with hair-brown except at basal area; cilia checkered with fuscous scales.

Under side: fore wing uniform fuscous; black spot indicated; hind wing with a medial faint fuscous band and with a broad postmedial band parallel to termen; cilia as on upper side.

Exp. ♂, 41-39 mm.; ♀, 44 mm.

Hab. ♂ type from New Hanover, 8. '13 (Hardenberg); cotypes, Umkomaas, 14. 1. '14 (Janse); Nelspruit, 10. '17 (Dr Breyer); ♀ type from Bulwer (near Durban), 30. 5. '14 (bred by E. E. Platt).

Another ♂ from Emangeni (S. Rhodesia), 19. 1. '18 (Janse) and a ♀ from Rietvlei (Natal), 1. '18.

The two ♂ cotypes have vein 6 of fore wing stalked with 7, 8, 9.

Genus *ANTHEUA*.

(Pl. I, figs. 17-20; Pl. III, figs. 10-30.)

Antheua Wlk. *Cat.* III. pp. 687, 766 (1855). Type *tricolor*¹.

Hmps. *Moths of India*, 1. p. 145.

Dist. *Ins. Transv.* IV. p. 91.

Sirenopyga Wllgrn. *Öfv. Vet. Akad. Förh.* xv. p. 210 (1858).

Description from *tricolor*.

♂, ♀. Proboscis present, moderate; palpi somewhat upturned, short, just reaching frons, densely covered at front and sides with long hairs, mixed with some scales; first and second joint about equal in length; third joint very small, about $\frac{1}{3}$ rd of second joint; eyes large, rounded and naked; antennae of ♂ bipectinated for $\frac{2}{3}$ rd of shaft, branches shortening rather suddenly, terminal third becoming serrate; branches about two times shaft, each branch has fasciculated cilia at its end and is ciliated on the anterior side; in ♀ the antennae are simple and ciliated on both sides (in some species, as *bicolor* and *simplex*, the branches are longer, about three times shaft, while in *bicolor* the branches become *gradually* shorter towards tip); a tuft of long hairs on front of first joint of shaft; fore tibia with a process as long as, or slightly longer than, tibia; process in *tricolor* rather broad and pointed, in all species more or less hollow above on inner side, then becoming flattened and often twisted, the flat side being against the tibia, a row of bristles on edge of keel-shaped part as shown in fig. of *aurifodinae*; process thickly covered with hairs and some scales, as

¹ This is the type species according to Hampson, but Walker describes the species *simplex* first, so unless Walker has somewhere especially stated that *tricolor* is the type, I think *simplex* should be considered the type of the genus.

are the tibiae themselves; spines on the inner side of the tarsi, tarsi ending in a rather long claw; femora and tibiae of all legs with long dense hairs; mid tibia with two spurs, hind tibia with four spurs; spurs rather short and stout, covered with appressed hairs and scale-like hairs, and ending in a somewhat inwardly curved naked point which is provided with two rows of teeth (this curved point is rather long in *aurifodinae*).

Fore wing rather broad, sub-triangular, costa nearly straight, apex rounded, outer margin erect, straight, *slightly* sinuate, tornus rounded, inner margin nearly straight and without tufts; *1b* forked at base; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{3}{4}$ th 2 to 4; 4 well curved and from lower angle; 5 from middle of discocellulars; discocellulars erect and curved; 6 from middle of areole, which is long and narrow, nearly half length of vein 10, in some species (*simplex*) longer¹; 7 from before end of areole; 8, 9, 10 stalked, or 8, 9 stalked, and 10 from the areole; 8 from 9 at $\frac{2}{3}$ rd of 9; 10 from stalk of 8, 9 beyond half of 10, which originates near upper angle, thus making the areole very narrow; 11 from $\frac{2}{3}$ rd upper median; 12 parallel to costa.

Hind wing broad, triangular, costa somewhat curved, apex well rounded towards vein 7, outer margin well arched, slightly sinuate, tornus well rounded, inner margin somewhat arched; *1b* curved; 2 from just beyond $\frac{1}{2}$ of lower median; 3 from near lower angle; 4 from lower angle; 5 from above $\frac{1}{2}$ of discocellulars, which are inwardly oblique; 6 and 7 on a stalk of over $\frac{1}{3}$ rd of 6 and from upper angle; 8 parallel with, and approximated to, upper median for nearly whole length of median vein; no bar in *tricolor*, but some species show an indication of it.

Seven species have been placed in this genus, from which I remove *spurcata*, which I place in the genus *Zana*, and I think *aurifodinae* should be placed here, and so should *encausta*.

I have not been able to secure the description of Walker's *extenuata*, but it is probable that the description would not have helped much in recognising the species.

The species may be tabulated as follows:

1 a.	Fore wing with ground colour dark grey; hind wing yellowish	bicolor	p. 180
b.	Fore wing with ground colour light grey; hind wing light fuscous		
		peringueyi	p. 182
c.	Fore wing with ground colour light or dark yellow		2
2 a.	Fore wing with antemedial and postmedial series of orange dots		3
b.	Fore wing without such dots		4
3 a.	Fore wing bright yellow; antemedial spots 4; postmedial spots 7		
		croceipuncta	p. 178
b.	Fore wing pale yellow, antemedial spots 3, postmedial spots 7		
		basipuncta	p. 178
c.	Fore wing yellowish white; antemedial spots 3; postmedial spots 7		
		albida	p. 178
4 a.	Hind wing white		5
b.	Hind wing not white		8
5 a.	Fore wing densely irrorated with black and fuscous, especially along costa, medial fold and inner marginal area	mixta	p. 182
b.	Fore wing with no fuscous or black irroration along costa or inner margin		6

¹ There is a tendency in the areole to disappear, either through anastomosis of vein 7 and stalk of 8, 9 or of vein 10 with stalk 8, 9; this coalescence is found in the same species with normal specimens and generally veins 6-10 seem to be in a state of flux in this genus. There are even more varieties than those given in the figures and these are mentioned with each species where they occur.

- 6 a. Fore wing straw-yellow and with small black spots near base and at postmedial area **dimorpha** p. 180
 b. Fore wing pale or bright yellow, no black spots at basal or postmedial area **7**
- 7 a. Fore wing glossy pale yellow with spaces between the veins more or less filled with deep olive-buff **simplex** p. 177
 b. Fore wing bright yellow with three longitudinal fascia, a short one near apex below vein 8, a longer one below vein 7, and a long one from base to outer margin below vein 4 **aurifodinae** p. 179
- 8 a. Fore wing bright yellow, with diffused black scales in medial area below the cell and a few black scales indicating postmedial line **tricolor** p. 179
 b. Fore wing bright yellow and with brown markings **9**
- 9 a. A brown patch at base, and a medial brown patch below cell and vein 4 **consanguinea** p. 180
 b. Three broad fasciae on fore wing which touch each other at sub-terminal area, apical fascia short, from below apex oblique to vein 5 at $\frac{1}{3}$ rd, then again to outer margin at vein 4; second fascia from near base to outer margin below lower median and vein 4, filling whole space till vein 2; third fascia along inner margin nearly as far as 1 b **encausta** p. 179

A. ANTENNÆ OF FEMALE BIPECTINATE.

ANTHEUA SIMPLEX.

(Pl. I, fig. 18; Pl. III, fig. 26.)

Antheua simplex Wlk. Cat. III. p. 766 (1855).Dist. *Ins. Transv.* IV. p. 91, Pl. VIII, f. 11.*Sirenoptyga ephippiata* Wllgrn. *Wien. Ent. Monats.* IV. p. 164 (1860).Wllgrn. *Köngl. Vet. Akad. Handl.* 2. Bd. v. No. 4, p. 52 (1865).

I have specimens in my collection which vary considerably in intensity of colouration, ranging from with light yellow fore wing and white hind wing to an olive-lake (xvi) fore wing and light greyish olive (xlvi) hind wing. The antennae of the ♀s are with rather long pectination. A considerable variation is found in the venation of the fore wing as shown in the following table:

3 ♂s, 2 ♀s, as given in illustration; 6 from before middle of areole, 7 from end of areole; 10 from well before end of areole.

1 ♂, 6 as above; 7 from end of areole; 10 from before end of areole.

1 ♂, 6 as above; 7 as above; 10 from end of areole.

1 ♂, 1 ♀, 6 as above; 7 from stalk 8, 9; 10 as above.

1 ♂, 6 from $\frac{3}{4}$ rd of areole; 7 as above; 10 as above.

1 ♂, 6 as above; 7 as above; 10 from before end of areole.

1 ♂, *right wing*. 6 from middle of areole; 7 shortly stalked with 8, 9; 10 from before end of areole.

left wing. 6 free from angle of cell; 7 on a long stalk with 8, 9; 10 anastomosing with stalk 7, 8, 9, to form the areole.

This shows clearly that the position of vein 6 is of no use in separating the genus *Antheua* from *Zana* and *Cleapa* and perhaps other allied genera, as done by Sir George Hampson, and that the way in which vein 10 comes out of the areole is also far from constant. I do not think that any of these characters can be used for certain grouping of genera, as is done by Schaus in his paper in the *Tr. E.S.L.* 1901, p. 260.

This species is found all over South Africa. I have it in my collection from Pretoria, Middelburg, Waterval onder (Transvaal); New Hanover, Karkloof, Sarnia, Umkomaas, Verulam (Natal); Eshowe, and Melmoth (Zululand); in Oct., Nov., Dec., Jan.

Larva feeds on *Desmodium incanum* D.C. (E. E. Platt).

ANTHEUA CROCEIPUNCTA.

(Pl. I, fig. 19; Pl. III, figs. 19-23.)

Antheua croceipuncta Hmps. *A.M.N.H.* 8. v. p. 174 (1910).

I have hardly any doubt that this species and the following two are really the same specifically. Practically the only differences given consist of different intensity of colouration of head, thorax, wings and legs, absence of basal spots in *croceipuncta*, which are present in the other two species, a missing spot in *basipuncta*, present in the remaining two species. It is not stated which spot the missing one is but I suspect it to be the one on the upper median as this is the smallest of all and has a tendency to become smaller. One of my bright specimens has only 6 postmedial spots, the one on vein 5 being absolutely absent, without a trace of it, and which is certainly of the same species as my other specimens that have the 7 spots.

I have 5 specimens in my collection, 4 ♀s and one ♂, in which the coloration gradually merges from bright yellow into yellowish-white; of these the bright yellow ♀s have 2 basal spots (which are not mentioned for *croceipuncta*) and the lighter ♀ as well as the still lighter ♂ shows not a trace of it. They are all from the same locality (Salisbury), the bright coloured specimens being caught by myself at the end of December; the light coloured specimens were collected by Father O'Neil on Nov. 29th and in December, 1915. I have no doubt that my light coloured specimens have bleached either in nature or after collecting. The same gradual change of yellow may also be found in *tricolor* as this yellow readily fades in strong sunlight. The specimens I caught must have been quite fresh when collected and were the finest specimens Father O'Neil had seen up to that time; they were perhaps of the second brood.

My bright ♀s have the hind wings above and both wings on the under side coloured drab (xlv) but the light coloured ♀ is only irrorated with drab on the upper side and slightly tinged with this colour on the under side. The ♂ is tinged with light orange-yellow (iii) and the under side is yellowish-white.

Of course, not having seen the type specimens, I cannot be certain, but with my specimens before me I have no doubt as to *basipuncta* and *albida* being co-specific to *croceipuncta*.

One of the ♀s has vein 6 of fore wing from angle of cell and not from the areole as is the case with the others, while another ♀ has the left wing normal and the right wing without the areole, so that 6, 7, 8, 9 are stalked and vein 10 is free from upper median. The antennae have in both sexes nearly equally long pectinations.

ANTHEUA BASIPUNCTA.

Antheua basipuncta Hmps. *A.M.N.H.* 8. v. p. 474 (1910).

ANTHEUA ALBIDA.

Antheua albida Hmps. *A.M.N.H.* 8. v. p. 475 (1910).

B. ANTENNAE OF FEMALE SIMPLE.

ANTHEUA TRICOLOR.

(Pl. I, fig. 17; Pl. III, figs. 10-15.)

Antheua tricolor Wlk. *Cat.* III. p. 688 (1855).Feld. *Reise. Nov.* IV. Pl. XCIV, fig. 7 (1874).(var.) Dist. *Ins. Transv.* IV. p. 92, Pl. VIII, fig. 13.*A. varia* Wlk. *Cat.* III. p. 766 (1855).Dist. *Ins. Transv.* IV. p. 92.

I do not think that there is any doubt about *A. varia* being the same as *A. tricolor*, the latter being a rather old and bleached specimen or perhaps a lighter coloured variety. The description of *A. varia* corresponds best with a fresh specimen. The figure given by Distant is also of a bleached specimen. A fresh specimen has the fore wing brighter yellow and the hind wing much darker, in such a case the black scaling in the fore wing (not shown in the figure) is more prominent. These intense black scales are found below the lower median, usually only between veins 2 and 3, but sometimes also before 2 and beyond 3; several of my specimens have a postmedial series of black spots from above vein 2 or 3, erect to vein 6, then a few scales obliquely towards apex. These spots are often reduced to a few scales only, and are often altogether missing in perfectly fresh specimens. The more intense yellow the fore wings are, the more black there is on the fore wing. Only the ♀ appears to have a black patch on the abdomen on upper side at the last two segments.

This species seems to be well distributed over South Africa. I have it from: Sarnia, Durban, Umkomaas (Natal); Nkweleni (Zululand); Emangeni, Umvuma (S. Rhodesia), and it is also recorded from Waterval onder (Transvaal). Caught in July, Oct., Jan., Dec.

ANTHEUA AURIFODINAE.

(Pl. III, figs. 27-30.)

Rigema aurifodinae Dist. *Entom.* XXXV. p. 213 (1902).Dist. *Ins. Transv.* IV. p. 91, Pl. VIII, fig. 7.

I see very little reason for placing this species in the genus *Rigema*, the similarity in wing *pattern* being the only one, and even this character is not very pronounced. The shape of the fore wing is, however, that of a typical *Antheua* and the bar between the upper median and vein 8 of hind wing, which is well developed in *Rigema*, is absent in *aurifodinae*. Antennae, palpi and process of fore tibia are as in *Antheua*, though the stalk of 6, 7 in hind wing is a little longer. The hairs on the thorax are rather long and shaggy and not short as in *Antheua*, and there is a tendency to crestforming as in *Rigema*. I have this fine species from Beynspoort, Tweefontein (Transv.); Durban, Karkloof (Natal); Umvuma (S. Rhodesia); in Dec., Jan.

ANTHEUA ENCAUSTA.

(Pl. III, figs. 16-18.)

Dinara encausta Hmps. *A.M.N.H.* 8. v. p. 476 (1910).

I fail to see why this species has been placed in the genus *Dinara*, a genus which Hampson in his *Moths of India*, vol. 1. gives as a synonym of *Anticyra*. The differences between *Antheua* and that genus given on p. 144 are that the ♂ antennae are fasciculated and not bipectinated to apex, that vein 6 is

from beyond end of cell in *Anticyra* and from angle of cell in *Antheua*, that vein 9 is anastomosing with 8 to form the areole, while in *Antheua* 9 and 10 are anastomosing with 8 to form the areole. The figures given for both genera show a number of mistakes. Fig. 87 for *Anticyra* is supposed to be a ♂, but according to the frenulum it is a ♀; vein 10 is anastomosing with stalk of 7, 8, 9 to form the areole, just as is given for *Antheua*. Fig. 88 has vein 6 from the areole and not from the angle of the cell as it should be in *Antheua*, while one of the veins 8–10 is missing; in both figures a bar is given between vein 8 and upper median. As illustrated before, the position of veins 6–10 in the fore wing is extremely variable in species evidently belonging to *Antheua*, and can hardly be used alone as a distinction between genera. My specimens of *encausta*, however, have a venation as given in my figure of *A. tricolor*, in fact the only difference I can find is in the hind wing, which has 3 and 4 from a point and a slight bar at $\frac{1}{3}$ rd between the upper median and vein 8. The antennae of the ♂ are bipectinate for $\frac{1}{3}$ rd of shaft, as in *A. tricolor*, and the wing colouration and pattern indicate close relationship to *consanguinea*.

I have several specimens of this species, including a ♀, from Umtali and Salisbury (S. Rhodesia), in Dec., and Jan.

ANTHEUA CONSANGUINEA.

Antheua consanguinea Dist. *Ins. Transv.* iv. p. 92, Pl. VIII, fig. 12 (1903).

Apparently only one specimen, a ♀, has been discovered so far, caught at Lydenburg; I have not met with this species yet, nor have I seen it in any of the South African collections.

ANTHEUA BICOLOR.

(Pl. I, fig. 20; Pl. III, figs. 24, 25.)

Chadisia bicolor Dist. *A.M.N.H.* 7. iv. p. 360 (1899).

Dist. *Ins. Transv.* iv. p. 93, Pl. IV, fig. 10.

Osica verulama Beth.-Baker. *A.M.N.H.* 8. ii. p. 257 (1908).

Why this species has been placed in *Chadisia* is a puzzle to me. The general heavy build, the rather broad fore wing and erect outer margin, the absence of the scale-like ridge of hairs on the mid and hind tibiae, the short second joint of the palpi, all this points to *Antheua*, in fact the only point of resemblance to *Chadisia* I can find is the dark scaling at tornus of hind wing, which, however, is never as pronounced as in *Chadisia*, in some cases even, it is just represented by a dark edging along the outer margin and this is never the case in *Chadisia*.

Larva feeds on *Rhus villosa* L.f.; autumn larva hibernates in the caterpillar stage in its cocoon (E. E. Platt).

This species seems to have a wide range in South Africa. I have it from Pretoria, Three Sisters, Waterval onder, White river, Bultfontein (Transvaal); New Hanover, Karkloof, Umkomaas (Natal); Nkweleni (Zululand); Emangeni (S. Rhodesia), in Oct., Jan., March.

ANTHEUA DIMORPHA.

(Pl. XIII, fig. 10; Pl. XIV, fig. 2; Pl. I, fig. 25; Pl. IV, figs. 14–17.)

♂. Hairs on head, thorax on upper and under side and palpi on front Pinard-yellow (iv); palpi at sides with black hairs; abdomen above and branches of antennae yellow ochre (xv); abdomen on under side Naples-yellow (xvi);

fore wing on upper side straw-yellow (xvi); two small sub-basal black spots one on vein 12, and one just below lower median; antemedial line represented by some black scales on vein 1*b*, lower median, discal fold, upper median and vein 12; some black scales in, beyond and below cell; two black strigae at end of cell; a postmedial series of small black spots, curved outwardly at vein 7, inwardly at vein 5 and sub-median fold and from vein 4 oblique to $\frac{3}{4}$ th of inner margin; the spots are on veins 1*b* to 8 and on sub-median fold; a few black scales on sub-terminal area here and there between the veins; between the veins from costa to tornus a series of terminal strigae; cilia gradually getting white. Hind wing pure white with a few fuscous scales on origin of veins 3 and 4, and lower discocellular; cilia white. Fore wing and hind wing on under side white; fore wing with a medial patch between veins 4 to 7 irrorated with fuscous scales; hairs on legs marguerite-yellow (xxx) mixed on fore femur and tibia with fuscous hairs. On the cotype very little of the black scales can be seen, the specimen is in rather worn condition and not as well preserved as the type.

Branches of antennae to apex and about four times shaft; areole of fore wing exceedingly short and broad for an *Antheua*, but according to the other characters it appears to come in this genus.

♀. Like ♂, but without a trace of the antemedial spots and with more medial black scaling. Hind wing with some medial cinnamon-brown (xv) irroration.

The proboscis is very weak but present in the ♂; in the ♀ the proboscis is entirely absent and vein 5 of the hind wing is very weak, almost absent.

Exp. ♂, 44 mm.; ♀, 44 mm.

Hab. ♂ type from the Ermelo district (collected by Miss Forbes) in coll. Transvaal Museum; ♂ cotypes from Durban and Charlestown, in coll. S. A. Museum and coll. Janse. ♀ in coll. Janse, bred by E. E. Platt in Sept. 1915, at Durban.

Larvae feed on *Tephrosia macropoda* E. M. Very common at Durban in Oct.—Nov. 1914, but mostly parasitized. They construct a tough glutinated silken cocoon in the earth, and pupation is delayed for several months. Single brooded; the moths appearing in September (E. E. Platt.)

ANTHEUA DIMORPHA var. *brunnea* nov.

(Pl. XIV, fig. 1.)

♀. Hairs on head, palpi, thorax, legs, abdomen on under side, and ground colour of fore wing cinnamon-brown (xv); abdomen above antimony-yellow (xv), at sides light buff (xv); shaft of antennae with cinnamon-brown scales, branches maize-yellow (iv); fore wing uniform cinnamon-brown; a few sub-basal black scales above and below lower median; three bigger antemedial black spots on vein 12, lower median and 1*b*; a black irroration in cell beyond it till well before discocellulars and another black scaling on discocellulars, indicating the reniform; a postmedial series of black outwardly angulated spots on veins 1*b* to stalk of 8, 9, 10; a sub-terminal series of inwardly angulated black spots between the veins from above 1*b* to vein 8, almost parallel to termen, a little further from termen near apex than near tornus; some terminal black scales between the veins above 1*b* to 8; cilia of ground-colour, a little lighter at base.

This and the typical form were reared from the same batch of caterpillars. Mr Platt kindly gave me the following information: "Feeds on *Tephrosia macropoda* E. M.; the larvae were very common at Clare Estate, Durban, in Oct.—Nov. 1914, but most of them were parasitized. I have not met with them

since. They construct a tough glutinated silken cocoon in the earth and pupation is delayed for several months. Single brooded. The moths appearing in September."

Mr Platt has in his collection a brown ♂ and ♀.

ANTHEUA PERINGUEYI spec. nov.¹

♂, ♀. Head and thorax with fuscous (xlvi) and white hairs almost equally mixed, so as to produce a dark grey colour when not viewed with a magnifying glass and of the same tint as the general colour of the forewings; abdomen avellaneous (xl); thorax in ♀ with a small tuft of scales on mesothorax; fore wing whitish, rather densely irrorated with fuscous, especially at base and along costa; indications of a dentate fuscous medial line; a fuscous striga at end of cell; an outwardly dentate postmedial line, indistinct from costa to vein 7, then more distinct till vein 2, then indistinct; indications of a sub-terminal diffused irregular line; a distinct zigzag terminal line; cilia have general colour of fore wing. Hind wing light buff, distal part densely irrorated with fuscous and a medial line indicated by a fuscous irroration

Under side: both wings whitish; fore wing with a rather dense fuscous shading between postmedial and sub-terminal lines, broad near costa where it has two small, white, oblique, strigae and gradually getting more narrow till it ceases beyond vein 2; hind wing with medial line indicated by a fuscous irroration; some fuscous irroration beyond it along costa till near tornus.

Antennae bipectinated in ♂ till the tip; in ♀ simple; branches antimony-yellow (xv).

Exp. ♂, 40 mm.; ♀, 46 mm.

Hab. Capetown, March 1917 (P. C. Keytel).

♂ type in S. African museum; ♀ cotype in coll. Janse.

ANTHEUA MIXTA spec. nov.

(Pl. XIII, fig. 9.)

♂, ♀. Frons of head and thorax on under side apricot-yellow (iv); thorax above, hairs on palpi and legs on outer side marguerite-yellow (xxx), on palpi mixed with black hairs; tibiae on inner side covered with black hairs mixed with white; tarsi black ringed with white; a stripe on each side of thorax on upper side and hairs covering first segment of abdomen buff-yellow (iv), abdomen on upper side (except the last two segments, which are ringed black and buff-yellow) ochraceous-orange (xv); a lateral black line, checkered with whitish on abdomen; abdomen white on under side; branches of antennae ochraceous-orange.

Fore wing white and with broad fasciae, consisting of black and fuscous (xlvi) scales which are thickly covered with marguerite-yellow hair-like scales, so as to give a greyish tinge to the fasciae; costal fascia from base to apex, as broad as from costa to a little below upper median and having a whitish fascia between veins 7 and 8; second dark fascia from discocellulars to outer margin and filling the whole space from costal fascia between veins 5 to 7; a short, triangular terminal fascia of ground colour between veins 5 and 6; third fascia from base of wing to outer margin, joining the costal fascia till well beyond base and forming a straight edge in cell above the lower median, then along vein 4 for half that vein, then above vein 4 to outer margin; lower edge is well below lower median and vein 2 and parallel to discal

¹ This species was unfortunately not on hand at the time when the coloured figures were made, so that it was impossible to figure this species.

fold; two short, white, sub-triangular outer marginal fascia between 2 and 3, 3 and 4; fourth inner marginal fascia from base to tornus, extending to near discal fold; inner margin with a whitish edging; cilia white, checkered with a bunch of black scales on each side of veins *1b* to 8, but remaining white just opposite the veins. Hind wing with buff-yellow hairs on inner margin; some fuscous scaling on veins 2 to 8 at terminal area; an indistinct black terminal line; cilia white and checkered as in fore wing.

Under side of both wings white and with a terminal black line and some dark scaling on the veins at terminal area.

♀. Of stouter build; the antennae are unfortunately missing in my specimen, but are probably simple as in the ♂ the branches are already very short, only a little over thickness of shaft.

The areole of the fore wing is in this species normal.

Exp. ♂, 48 mm.; ♀, 53 mm.

Hab. ♂ type from Charlestown (Natal) in coll. Janse; ♀ cotype from Likhoele (Basutoland), collected by Dieterlin, in coll. S. African Museum.

Species omitted: *A. spurcata* Wlk. = *Eutimia marpissa* Wllgrn., which I place in the genus *Zana*.

Genus DESMEOCRAERA.

(Pl. I, fig. 21; Pl. IV, figs. 1-12.)

Desmeocraera Wllgrn. *Köngl. Vet. Akad. Handl.* 2. Bd. v. No. 4, p. 52 (1865).

Auriv. *Öfu. Vet. Akad. Förh.* No. 9, p. 1050 (1900).

Type *interpellatrix*. Description from *interpellatrix*.

♂, ♀. Proboscis almost absent; palpi upturned, reaching vertex of head; first joint short, about $\frac{1}{4}$ th of second joint; second joint long, curved at base, gradually tapering; third joint very minute, in some species absent; all joints covered with rather short hairs and scales; eyes rounded, large, naked; frons rounded, covered with hairs and scales; antennae in ♂ about $\frac{2}{3}$ rd of costa in length, in ♀ only $\frac{1}{4}$ th; basal joint globular and with a tuft of hairs and scales in front; bipectinated for $\frac{4}{5}$ th, then serrate; pectination rather long, in middle about 5 times shaft; each branch with a terminal bristle and ciliated anteriorly; fore legs with a rather narrow, somewhat pointed process, reaching till end of tibia; mid tibia with two spurs as long as $\frac{1}{4}$ th of tibia; spurs with a terminal serrate edge on inner side and covered with hairs; hind legs with four spurs, about $\frac{1}{3}$ rd of tibia and in structure as on middle legs; all femora covered with long hairs; tibia of fore leg with hairs and scales, of other legs with hairs only; tarsi with dense, short, stout hairs.

Fore wing sub-triangular, costa almost straight, well curved towards apex, outer margin somewhat rounded, oblique, inner margin straight, apex and tornus rounded; *1b* forked; 2 from just beyond $\frac{2}{3}$ rd lower median; 3 from before lower angle; 4 from angle; 5 from middle of discocellulars, which are straight and erect; 6 from upper angle or more or less stalked with 7, 8, 9, 10; stalk from upper angle; 8 from just beyond $\frac{1}{3}$ rd of 7; 9 from before $\frac{2}{3}$ rd of 8; 10 from middle of origin of 7 and 8; 11 from beyond $\frac{3}{4}$ th upper median; 12 straight, parallel to costa. Hind wing somewhat circular; costa, termen and inner margin well curved; apex and tornus well rounded; *1a* and *1b* straight; 2 from $\frac{2}{3}$ rd lower median; 3 from just before lower angle; 4 from angle; 5 from above middle of discocellulars, which are oblique; 6 and 7 on a stalk of $\frac{1}{2}$ of 6; 8 free, first upcurved, then curved towards upper median and parallel to it till near upper angle, then curved towards costa.

The species placed by me in this genus were placed by nearly all authors

in the genus *Stauropus*. All species known to me differ, however, from *Stauropus*, in having four spurs on the hind legs, having vein 10 of fore wing from beyond vein 7, having vein 8 of hind wing not touching the upper median, as it does in *Stauropus* for over half of cell, and in having rather long and upturned palpi. I only keep *mediata* Wlk. in *Stauropus*. A ♀ specimen of *Desmeocraera interpellatrix* in my collection has been identified by Prof. Aurivillius and the same distinguished entomologist drew my attention to the fact that *atriguttata* and *calloipe* have to be placed in *Desmeocraera* on account of the four spurs on the hind legs. As the type of *D. interpellatrix* Wllgrn. is probably in the Stockholm Museum and the species is apparently well known to Prof. Aurivillius, I have no doubt that his identification is correct, though I cannot confirm this for certain on strength of the description. It is true, that my three specimens agree well with the description, but the description is of course far from complete. The only difference of importance is, that the ground colour of my specimens is not grey, but greyish green; seeing, however, that this green colour is not easily preserved, it is quite well possible that Wallengren's specimens were rather faded.

Desmeocraera hierax Dist. has to be taken out of this genus and has to come in the genus *Pararethona* as the wing venation and other structural characters show little direct relationship to *Desmeocraera* and why Distant has placed it there is a mystery to me.

Key to the South African species:

- | | | |
|------|--|------------------------------|
| 1 a. | Ground colour of fore wing green or irrorated with green | 2 |
| b. | Ground colour of fore wing white, irrorated with grey or with brown, or ground colour greyish-green | 9 |
| 2 a. | Ground colour of fore wing malachite-green (xxxii), orbicular and reniform defined by narrow silvery white lines; a fuscous sub-terminal patch between veins 5 and 6; some silvery white edging on sub-terminal, antemedial, medial and postmedial lines | <i>calloipe</i> p. 186 |
| b. | Fore wing not malachite-green, but lighter | 3 |
| 3 a. | Sub-terminal line represented by a more or less irregular fine, often faint line | 5 |
| b. | Sub-terminal line represented by spots between the veins only | 4 |
| 4 a. | All markings on the fore wing somewhat diffused, sub-terminal spots most clearly defined of all; postmedial line very diffused; wing thickly irrorated with biscay-green (xvii); hind wing brownish | <i>atriguttata</i> p. 186 |
| b. | Markings on the fore wings sharply defined and edged with white, post-medial line well defined, narrow, black and very irregular; ground colour of fore wing pale olivine (xxxii); hind wing whitish <i>thalassina</i> | p. 187 |
| 5 a. | Ground colour of fore wing water-green (xli), three diffused rounded spots, the smallest at lower angle, a larger one before this on lower median and one below lower median at before origin of vein 2 | <i>tripuncta</i> p. 189 |
| b. | No diffused spots on fore wing as mentioned above; ground colour of fore wing water-green or slightly darker | 6 |
| 6 a. | All markings, except sub-terminal line, very diffused, almost absent; antemedial and postmedial lines indicated by some dark scales, mixed with yellow scales; indications of white-ringed orbicular and reniform | <i>vernalis</i> p. 186 |
| b. | Markings more distinct; no yellow scales mixed with it | 7 |
| 7 a. | Postmedial area irrorated with dark green scales; hind wing of ♂ whitish, veins beyond the sub-terminal line not streaked with black | <i>interpellatrix</i> p. 185 |

- b. Postmedial area not much darker than ground colour; hind wing of ♂ thickly irrorated with brown; black streaks beyond sub-terminal line as far as termen 8
- 8 a. Hind wing with white streaks on the cilia; a distinct black irroration in middle of postmedial area, edged on the inner side by yellowish-green, on outer side by white, below vein 4 connected with a black patch to sub-terminal line and below vein 2 with a black streak towards base, which is interrupted by green at antemedial area
- platti** p. 190
- b. Cilia of hind wings not interrupted by white streaks; no distinct irroration beyond postmedial line, though in the ♀ there is an indication of it; there is, however, no dark patch below vein 4; often there is a continuous or interrupted black streak, broad or narrow, below lower median from base to postmedial line; hind wing with postmedial line distinctly indicated near costa by two black streaks as far as vein 6 **varia** p. 187
- 9 a. Sub-basal line obliquely outwards towards costa 10
- b. Sub-basal line obliquely outwards towards inner margin 11
- c. No sub-basal line at all **incana** p. 189
- 10 a. Ground colour of fore wing thickly irrorated with drab (xlvii); some yellow hairs at ante- and postmedial lines; hind wing irrorated with brown **vernalis** p. 186
- b. Ground colour of fore wing light mouse-grey (li); hind wing pure white except at costa near apex **canescens** p. 188
- 11 a. Sub-basal area rather dark, well defined by a double black line; cilia greyish; pecten of antennae in ♂ over 3 times shaft **basalis** p. 186
- b. No black lines defining sub-basal area, which is of ground colour, but defined by a single brown line; cilia of hind wing almost white; pectination of antennae in ♂ short, about two times shaft 12
- 12 a. Antemedial line nearly straight; postmedial line somewhat incurved at lower angle of cell, beyond which it just passes **steniptera** p. 191
- b. Antemedial line angled outwards in cell, inwards at submedian fold; postmedial line curved outwards beyond vein 3, passing a good distance beyond discocellulars **pergrisea** p. 191

DESMEOCRAERA INTERPELLATRIX.

(Pl. I, fig. 21; Pl. IV, figs. 1-3.)

Stauropus interpellatrix Wllgrn. *Wien. Ent. Monats.* iv. p. 164 (1860).*Desmeocraera interpellatrix* Wllgrn. *Kongl. Vet. Akad. Handl.* 2. Bd. v. No. 4, p. 52 (1865).

I have two ♂s of this species in my collection, one from White River (Aug. 1909), and one from Krantzklouf (Aug. 1916); and one ♀ from Eshowe (Zululand) (Jan. 1916). One ♀ in Transvaal Museum from Durban (Febr. 1908).

As remarked in my notes on the genus, my specimens are not grey, but tinged with olivine (xxxii) green; however, for reasons given above, I have little doubt as to the correctness of the identification, as moreover, the species is very distinct from any of the other species known to me.

The third joint of the palpus of this species is very minute and only visible between the hairs at high magnification.

DESMEOCRAERA ATRIGUTTATA.

(Pl. IV, fig. 8.)

Stauropus atriguttata Hmps. *A.M.N.H.* 8. v. p. 465 (1910).

I have ♂s and ♀s in my collection from Durban caught in Jan. and May. Sir George Hampson only described the ♀ of this species. The ♂ is much smaller, 44–50 mm., but is otherwise identical with the ♀. Both sexes have a green patch of hairs and scales on the upper side of the last abdominal segments, a character not mentioned in the description.

Larva feeds on *Mimusops obovata* Sond., *Chrysophyllum viridifolium* Wood, and *C. natalense* Sond., pupates in a brittle earthen cocoon (E. E. Platt).

The third joint of the palpus is longer than in *interpellatrix*.

DESMEOCRAERA CALLIOPE.

(Pl. IV, figs. 4, 5.)

Stauropus calliope Hmps. *A.M.N.H.* 8. v. p. 466 (1910).*Desmeocraera ianthina* Aur. iv.

Only ♀s in my collection, all from Durban in Jan., March, June, November.

The spurs of the hind legs, especially the terminal pair, are shorter, more curved at the point and the toothed ridge is not visible; the third joint of the palpi also seems to be absent in this species.

Larva feeds on *Chrysophyllum viridifolium* Wood (H. A. Green).

Spins a cocoon in chinks of bark, some distance from the ground (E. E. Platt).

DESMEOCRAERA VERNALIS.

(Pl. IV, fig. 6.)

Desmeocraera vernalis Dist. *A.M.N.H.* 6. xx. p. 205 (1897).Dist. *Ins. Transv.* iv. p. 89, Pl. IV, fig. 1.

My specimens agree well with the quite good figure and the rather poor description and I have seen a specimen identified by Distant himself. I find that the yellow scales mixed with black scales on the antemedial and post-medial lines, as mentioned in the key, are very reliable characters. In the grey variety these scales are also present though the lines themselves are very indistinct in that form. The general ground colour of the fore wings is not green, but greyish.

Hab. In coll. Transvaal Museum from Durban in Sept. and Nov., and from Pretoria in Jan.

Larva feeds on *Combretum apiculatum* Sond., pupates in a brittle earthen cocoon (E. E. Platt).

In coll. Janse from Durban (March); Karkloof (Jan.); Waterval onder (Nov.); Barberton (Nov.); Eshowe (Zululand) (Jan.).

DESMEOCRAERA BASALIS.

Desmeocraera basalis Dist. *A.M.N.H.* 7. iv. p. 361 (1899).Dist. *Ins. Transv.* iv. p. 89, Pl. IV, fig. 14.

Three specimens, one in the Transvaal Museum and two in my own collection, agree well with the figure except that the sub-basal lines do not go deeply inwards at vein 1*b* as shown in the illustration. One of my specimens

(from Emangeni) shows the basal patch rather lighter than the ground colour of the fore wing and not darker as in other specimens and as shown in illustration.

The description given by Distant is much too vague and if no good figure was given and the species was not as strikingly marked as it is, I would not have been certain of my identification. In my key several useful characters are given, but the direction of the sub-basal line, being oblique *outwardly* towards inner margin and the area before it being filled in with almost black scales, separate this species at once from the grey form of *vernalis* for which it might be mistaken, especially as *basalis* has also yellow scales between the black scales. The costa of the fore wing is also less curved at the base and the termen is more oblique than in *vernalis*.

Hab. In Transvaal Museum one ♂ from Nelspruit (Nov. 1917, Dr H. G. Breyer); in coll. Janse 3 ♂s from S. Rhodesia. (Emangeni, Jan. 1918; Umvuma, Dec.)

DESMEOCRAERA THALASSINA.

(Pl. IV, fig. 9.)

Stauropus thalassina Hmps. *A.M.N.H.* 8. v. p. 470 (1910).

My two ♀ specimens agree in every respect with the description and both specimens come from the recorded locality (Salisbury, bred by Father O'Neil in March and May).

Father O'Neil kindly sent me a drawing of the caterpillar from which the specimens were bred. This larva had 6 long front legs and four pairs of abdominal legs on the 3rd to 6th abdominal segments; the first and second abdominal segments had each a short hump and the last abdominal segments were turned up and the very last segment ended in two bristles as long as the breadth of that segment and placed in the shape of a V. It pupated for 20 days.

The front tarsi of the moth show some brushes of spreading hairs which are not found in any other species of this genus, also the palpi are shorter and have *spreading* hairs.

DESMEOCRAERA VARIA spec. nov.

(Pl. XIII, figs. 11, 12, 13; Pl. IV, fig. 7.)

♂. Thorax, ground colour of fore wing and costal area of hind wing, water-green (xli); vertex of head, palpi in front, legs, meso- and metathorax and abdomen on the under side cartridge-buff (xxx); sides of palpi, hairs of prothorax on under side, on tibia and femurs of fore legs and rings on tarsi of all legs natal-brown (xl); abdomen on upper side except the terminal segments and the remainder of the hind wings on upper side verona-brown (xxix); terminal segments of abdomen water-green; at base of abdomen a tuft of water-green hairs and scales mixed with black scales and hairs on the sides; shaft of antennae with white and natal-brown scales; branches clay colour (xxix).

Fore wing with all lines black, in some specimens beginning at costa with a natal-brown patch; sub-basal line confluent with basal line and erect till lower median, then excurved below lower median till antemedial line, some white and dark green scales beyond it; antemedial line double, very irregular and often obsolete, inner line heaviest, outer line thinner and preceded by a white line; a whitish patch beyond it below lower median; medial line absent from costa to vein 2, then faint and dentate on 1 b; orbicular and reniform edged with white scales; postmedial line double, very irregular and much dentated on the veins, excurved at vein 7, incurved between 7 and 4, then erect to inner margin; space between the lines at veins 2 to 4 filled in with cinnamon-buff

scales and whitish scales beyond it; three costal blackish patches beyond postmedial line and some black scales below these patches; sub-terminal line distinct, narrow, irregular and from 1*b* to 8, incurved between 4 and 6, indented at 2, 3 and 1*b* where it has some black scales at the tornus; some black strigae from termen to near sub-terminal line on veins 2 to 8; cilia consisting of black and brown scales, checkered with cartridge-buff scales at the veins. Hind wing with a postmedial double line of black scales from costa to vein 6, inner line well defined, outer one very diffused; cilia uniform of natal-brown and cartridge-buff scales.

Under side: the whole fore wing, except inner marginal area, cartridge-buff, irrorated thickly with cinnamon-brown (xv); hind wing cartridge-buff, with some cinnamon-brown scales near apex; cilia of fore wing with cinnamon-brown tips, cilia of hind wing of ground colour. In some ♂ specimens the dark irroration at postmedial area is very much as in ♀ and a well-defined outer whitish line is present beyond the black sub-terminal line. In others again the antemedial, medial and postmedial lines are very obsolete.

♀. Like ♂, but more dark irroration in fore wing beyond postmedial lines, and here and there more chromium-green (xxxii) scales; whitish scales also more pronounced and more raised; postmedial dark irroration edged on the outer side by a crenulate whitish line, inwardly dentate on the veins; black basal line below the lower median continued till beyond postmedial line. In hind wing the irroration is more dense and extended till the inner margin. On the under side the hind wing is as much irrorated as in the fore wing. One ♀ cotype (in Transvaal Museum) has the postmedial patches between veins 2 and 4 dark.

Exp. ♂ type, 38 mm.; ♀ type, 50 mm.

Hab. ♂ type from Durban, 21. 9. '10 (Leigh); ♀ type, Durban, 18. 9. '14 (bred by E. E. Platt); cotypes and other specimens from the same locality in April, July, Oct. and Nov.

Probably very close to *octoginta*, but differs from it in the black streak of the median fold not going beyond postmedial line, in the presence of black streaks on the veins from sub-terminal line to outer margin, and a few other characters.

Var. ♂, ♀. Differs from the typical form in having a black, broad fascia at median fold as far as postmedial line; all other markings rather darker. Bred by E. E. Platt in Sept. and Nov. at Durban. Since drawing up the above description I received from Mr Platt some more material, all reared by him from the same batch of eggs. This material consists of 2 typical ♀s which in no point differ from the type except that they are somewhat smaller; the other 4 specimens consist of 2 pairs of the variety, one pair of which is in Mr Platt's collection, the others were kindly presented by him to me. These varieties are also like the types except one ♂, which has the antemedial and medial lines rather distinctly marked at the costal area, the medial line being indicated by two black spots, one on upper and one on lower median.

Larva feeds on *Mimusops obovata* Sond., and *M. discolor* Sond., pupates in a brittle earthen cocoon (E. E. Platt).

DESMEOCRAERA CANESCENS spec. nov.

(Pl. XIII, fig. 14.)

♂. Head, thorax, abdomen and fore wing pale olive-grey (li) mixed with mouse-grey (li); palpi at sides fuscous; hind wing on upper side, wings and body on under side and hairs of legs white; tarsi ringed with testaceous (xxviii),

on inner side cinnamon-buff (xxix); branches of antennae saccardo's umber (xxix); indications of sub-basal, antemedial, medial and postmedial lines, parallel to each other and inwardly oblique from costa to inner margin; sub-basal line as far as median fold only; all these lines consist of black scales, mixed with a few yellow scales; sub-terminal line well defined, shaded with lighter grey on outer side, dentate at each vein and at median fold; some olive-grey irroration on costa of hind wing at postmedial area and cilia as far as vein 6; a faint grey terminal line; cilia of both wings of ground colour. Fore wing on under side white, except for some grey irroration at costa and outer margin.

Exp. 38 mm.

Hab. Type and cotype. Emangeni (S. Rhodesia), 18. 1. '18. Janse.

Six specimens in all, of which two specimens are from Umvuma (S. Rhodesia), 25. 1. '17, Janse.

DESMEOCRAERA INCANA spec. nov.

♂, ♀. Head and thorax covered with white and mikado-brown (xxix) hairs; abdomen cream-buff (xxx); fore wing at costal and inner marginal area and whole region beyond postmedial line covered with white and mikado-brown hair-like scales mixed with black scales; remaining central area, except the veins, covered with hazel (xiv) scales; veins broadly covered with white scales mixed with black; a faint auburn (ii) postmedial line, dentate outwardly on the veins; a sub-terminal series of auburn spots between the veins from apex to vein 3, then becoming a faint line to tornus; cilia white, mixed with some drab (xlvi) scales. Hind wing whitish; a drab mark at end of cell, and beyond this the whole wing is irrorated with drab, most densely towards termen and on the veins; cilia white, with basal part tinged with drab. Under side: fore wing densely irrorated with wood-brown (xl) especially along costa; hind wing white, irrorated with wood-brown, rather densely along costa and termen. Thorax and abdomen on under side and legs with white and mikado-brown hairs. Antennae of ♂ with branches till the tip, which are about four times the shaft and cream-buff in colour; in ♀ shortly bipectinate, branches as long as thickness of shaft.

Exp. ♂, 38 mm.; ♀, 59 mm.

Hab. ♂ type from Ngqeleni (W. Pondoland), 7. 2. '07, in Transvaal Museum; ♀ cotype in coll. Janse, from the same locality, in 22. 1. '04, both collected by H. H. Swinny.

DESMEOCRAERA TRIPUNCTA spec. nov.

(Pl. XIII, fig. 15.)

♂. Head, hairs on legs and under side of abdomen cartridge-buff (xxx); thorax and upper side of fore wing olive-buff (xl), on thorax mixed with black scales and hairs; fore wing thickly irrorated with black; palpi at sides, sides of head and prothorax on under side with mars-brown (xv) hairs; some hairs on fore tibia and on upper half of fore tarsi vinaceous-russet (xxviii); branches of antennae yellow ochre (xv); abdomen on upper side light drab (xlvi), first segments with some olive-buff and black hairs, terminal segments olive-buff with a few black hairs. Fore wing densely irrorated with black; a sub-basal black line till upper median, angled outwards below costa; antemedial line double, indistinct, curved outwardly at median fold and below vein 1b, inwards at upper median vein, sub-median fold and angled inwards at 1b; white scales between this line and medial line from costa to vein 1b; medial line

very indistinct, only indicated by some black scales at costa; two black diffused spots in cell, the first and biggest rounded and just above origin of vein 2, the other smaller and at lower angle of cell; a third rounded black spot below lower median and just before vein 2, all three surrounded by whitish scales; postmedial line black, double, indistinct and dentated at the veins, angled at veins 7 and 5, incurved between veins 6 and 3; some white lines between the two lines; sub-terminal faint, black irregular at the veins, very much angled inwards at veins 2 and 3; cilia mouse-grey, cartridge-buff at the veins. Hind wing white, with three broad diffused bars of black and olive-buff scales, from costa to vein 6; first bar at fork of 6, 7, third bar at apex and second in middle; some black terminal scales at apex; inner marginal area with long tilleul-buff (xl) hairs; outer margin with some mouse-grey edging; cilia white, except at apex.

Under side of both wings white; fore wing densely irrorated with light cinnamon-drab (xlii) especially at costa; cilia light cinnamon-drab mixed with black; cilia of hind wing white.

Exp. 43 mm.

Hab. Malvern (Natal), 4. 7. '16 (bred by Mr E. E. Platt).

Only one ♂ is known to me, which Mr Platt kindly presented to my collection.

Larva feeds on *Eugenia cordata* Laws.; pupates in a brittle earthen cocoon (E. E. Platt).

DESMEOCRAERA PLATTI spec. nov.

(Pl. XIII, fig. 16.)

♂. Head, and thorax above greenish glaucous (xli) mixed with white and black hairs and scales; frons of head, palpi except at front, tibiae of fore legs on inner side, all tarsi on upper side, hairs of prothorax on under side chestnut-brown (xiv); palpi at front, narrow rings on tarsi, under side and inner side of tibiae and tarsi cream-buff (xxx); greenish glaucous hairs, mixed with black and chestnut-brown hairs on upper side of tibiae and femora; shaft of antennae black, branches antique-brown (iii); abdomen on upper side, Hay's brown (xxxix) except at the base where there is a tuft of long hairs like those of thorax and except the last segments which are covered with olivine (xxxii) scales; thorax and abdomen on under side cream colour (xvi).

Fore wing with ground colour deep chrysolite-green (xxxi) mixed with sea-foam yellow (xxxi) and black scales; a few black basal scales; sub-basal line black with rough sea-foam-yellow scales on outer side, angled outwards at vein 12, curved inwards to basal line at lower median, then forming a rounded black patch at between lower median and 1b, then indistinct; a tuft of light buff (xv) hairs at base on inner margin; a black streak on upper median from sub-basal to near antemedial line, and some black scales above it along costa; antemedial line black, narrow and preceded by rough white scales, excurved from costa to median fold, then erect to lower median, then interrupted by a rounded whitish patch between lower median and 1b, which has some greenish glaucous (xli) scales in its centre, then indistinct to inner margin; medial line preceded by whitish scales on costa, then faint at orbicular, then curved between lower median and sub-median fold, forming the outer edge of the light patch, then forming a curve outwardly till below vein 1b, then somewhat excurved to inner margin; orbicular and reniform broadly edged by whitish rough scales, the former round, the latter reniform; postmedial line double, faint, black, curved outwards at near costa, then oblique and well dentated on the veins; outer postmedial line followed by an often double line of whitish scales; costal half of wing between medial and postmedial lines densely covered with whitish

loose scales as far as vein 2; a broad black fascia below vein 2, from the whitish antemedial patch as far as white line between postmedial line and sub-terminal line; some black scales on costa beyond postmedial line; a white zigzag line from vein 8 to tornus between postmedial and sub-terminal lines, interrupted by a broad, black fascia between veins 3 and 4, which nearly reaches sub-terminal line; some black patches between the veins before this white line; sub-terminal line well defined, irregularly curved between the veins and from vein 8 to 1b, shaded on outer side with whitish, greenish-glaucous and black scales gradually forming a blackish shade into the cilia; cilia greenish-glaucous at the veins and brownish towards tip.

Hind wing densely irrorated with bister (xxix) especially at the veins and on termen, except the costal area, which is greenish-glaucous and has three indistinct black bars; cilia bister except at the veins and at the tips, where they are whitish.

Under side of fore wing cream colour at inner marginal area, but remainder warm sepia (xxix) and bister; cilia bister and distinctly dotted with cream colour at the tips; three cream coloured dashes at apex on costa; hind wing cream colour, some warm sepia scaling towards costa and on the veins; cilia warm sepia with cream coloured specks at the veins.

Exp. 41 mm.

Hab. Krantzklouf (Natal), 15. 6. '16. Bred by E. E. Platt. One ♂ type.

I have much pleasure in naming this beautiful species after its collector who kindly presented it to my collection.

Larva feeds on *Mimusops discolor* Sond., pupates in a brittle earthen cocoon (E. E. Platt).

DESMEOCRAERA STENIPTERA.

(Pl. IV, figs. 12, 13.)

Stauropus steniptera Hmps. *A.M.N.H.* 8. v. p. 471 (1910).

I have in my collection specimens collected in S. Rhodesia at Umvuma 12. '17, Emangeni 18. 1. '18; Salisbury 27. 10. '17 (R. Jack); all these are ♂s, and in the Transvaal Museum are two specimens, ♂ and ♀ from Pretoria in Jan. 1898.

This and the following species are peculiar for their very short pectination of the antennae; in the ♀ they are even simple and fasciculated; the palpi are also much shorter, more porrect and covered with hairs only, the second joint is as long as the first joint and the third joint is half as long; the process of the fore leg is much more pointed and somewhat curved; in the fore wing vein 10 originates from or from before vein 7.

In this species the sub-basal lines and especially the postmedial lines are very indistinct and diffused in the specimens I have seen; they also range from 38 to 44 mm.

DESMEOCRAERA PERGRISEA.

Stauropus pergrisea Hmps. *A.M.N.H.* 8. v. p. 472 (1910).

I have one worn ♂ in my collection from Durban, collected in Nov.

Species auctorum: The following species have been placed by Sir George Hampson in the genus *Stauropus*, but I have little doubt, that they all have to be placed in *Desmeocraera*; *D. hierax* has been placed by me in *Pararethona*.

Stauropus atribasalis Hmps. *A.M.N.H.* 8. v. p. 467 (1910).

Stauropus octoginta Hmps. *l.c.* p. 468 (1910).

Stauropus agramma Hmps. *l.c.* p. 471 (1910).

Stauropus griseiviridis Hmps. *l.c.* p. 469 (1910).

Genus **PHYLLALIODES**.

(Pl. I, figs. 22-24; Pl. IV, figs. 18, 19.)

Phyllaliodes Hmps. *A.M.N.H.* 8. v. p. 474 (1910).Type *agramma*.

♂. Proboscis very minute; palpi porrect, just beyond frons, three jointed; first joint and second joint of equal length; third joint about half of second joint; first and second joint with very long hair on under side; third joint hidden in hairs; eyes large, oval, naked; antennae about half of costa, bipectinated till tip, longest branches about 5 times shaft; a tuft of hair on first joint; frons, head above and thorax with long smooth hairs; abdomen without crests; fore tibia with a process shorter than tibia; curved very much outwardly and entirely hidden in very long hairs; mid tibia with two spurs, hind tibia with four; spurs moderate in length, ending in a smooth, slightly curved point, spurs covered with scale-like hairs; inner spurs about $\frac{2}{3}$ rd of outer spurs; femurs with very long hairs; mid*and hind tibiae with moderate hairs on inner side; tarsal joints with spines on inner side and further covered with short scales and hairs. Fore wing triangular; costa straight; apex rounded; outer margin nearly straight, somewhat oblique; termen rounded; inner margin nearly straight; 1 *b* nearly straight (I cannot see if it is forked without removing the scales, which are very dense at base); 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are straight; 6 and 7 on a short stalk and from upper angle; 8, 9, 10 stalked and from just beyond upper angle; 8 from just beyond $\frac{2}{3}$ rd of 9; 10 from just before $\frac{1}{3}$ rd of 9; 11 from upper median at $\frac{4}{5}$ th; 12 parallel to costa.

Hind wing semi-circular; costa straight; apex rounded; outer margin very oblique, well rounded and with a rounded lobe at 2 and 3; tornus well rounded; inner margin curved; 2 from before $\frac{2}{3}$ rd lower median; 3 and 4 on a short stalk and from lower angle; 5 from half of discocellulars, which are straight and erect; 6 and 7 from upper angle, stalked for about $\frac{1}{3}$ rd of 6; 8 nearly straight and connected with upper median at $\frac{1}{3}$ rd with a slight bar.

The following details were kindly given to me by Sir George F. Hampson, supplementing the information published by him in the original description and which leave no doubt as to my identification being correct: ♂. Palpi porrect, to rather beyond frons and clothed with long hair; eyes smooth; antennae with long branches, about five times shaft, and to apex; hind tibia with two pairs of spurs; thorax and abdomen without crests; fore wing rather narrow; the apex rounded; 3 from before angle; 5 from middle of discocellulars; 6 very shortly stalked with 7; 8, 9, 10 stalked; no pecten on inner margin; hind wing 3, 4 stalked; 5 from middle of discocellulars; 6, 7, stalked.

PHYLLALIODES AGRAMMA.*Phyllaliodes agramma* Hmps. *A.M.N.H.* 8. v. p. 474 (1910).

This is the only species known up to now. I have one specimen from Port Shepstone, the same locality from which the type specimen comes.

Genus **HYPOPPIALA** nov.

(Pl. I, figs. 26, 27; Pl. IV, figs. 20-24.)

Type *melanogramma* spec. nov.

♀. Head small, retracted; eyes large, round, naked; proboscis very rudimentary; palpi porrect, short, fringed with very long hairs; first joint nearly

straight, shorter than second joint, which is slightly curved and about two times third joint in length; third joint short, somewhat oval, covered with some scales, mixed with hairs here and there; antennae about half of costa, bipectinate till tip; branches about three times shaft and with fine cilia in front; thorax with long hairs; abdomen with short hairs and without crests; femora below and tibiae outwardly fringed with long hairs; tarsal joints with short stiff hairs, mixed with spines on inner side; process of fore tibia nearly as long as process, somewhat twisted, directed outwardly and with a hollow in the tibia below it; mid tibia with two, hind tibia with four spurs, of which the inner spurs are longer than the outer, all rather sharply pointed and covered with hairs.

Fore wing sub-triangular; costa curved towards apex, which is rounded; outer margin somewhat oblique, curved between veins 2 to 7, very slightly sinuated; tornus rounded; inner margin straight; *1b* somewhat curved, *probably* not forked at base; 2 from before $\frac{2}{3}$ rd lower median; 3 from beyond half 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are somewhat oblique inwardly and curved; 6 from near upper angle; stalk of 7, 8, 9 from upper angle; 7 from stalk at before half of 8; 9 from 8 at about $\frac{2}{3}$ rd; 10 from upper median beyond half origin 11 and upper angle; 11 from upper median at $\frac{1}{4}$ th; 12 parallel to costa. Hind wing broad, triangular; costa somewhat incurved; apex well rounded; outer margin oblique, somewhat hollowed out at 3 to 6; tornus very much rounded; inner margin well rounded at 1a; 1a and 1b somewhat curved; a trace of 1c; 2 from lower median at beyond half; 3 from near and 4 from lower angle; 5 from middle of discocellulars which are outwardly oblique and nearly straight; 6 and 7 on a stalk of about $\frac{1}{3}$ rd of 7; 8 upcurved at base, then downcurved to upper median and approximating but not touching it, then straight to apex.

HYPOPHIALA MELANOGRAMMA spec. nov.

(Pl. XIV, fig. 3.)

♀. Fore wing and hind wing pure white; fore wing with the costa edged with pale orange-yellow (iii); very fine black lines on part of vein 12, on upper median, discocellulars, lower median, vein 1b, veins 2 to 9, and a fine black line in middle of cell from base to discocellulars and another from near base to outer margin on plical fold; cilia white; hind wing with all veins covered with fuscous (xlv) scales; the whole wing, except near base and costa and at terminal area irrorated with fuscous; cilia white; under side of both wings white; costa of fore wing pale orange-yellow; greater part of fore wing thickly irrorated with fuscous, except near base, along inner margin, tornus, termen and apical part of costa; all veins covered with fuscous; cilia white. Hind wing remains pure white except for the fuscous lines on veins and plical fold; hairs on head and thorax long, shaggy, and tinged with lichen-green (xxxiii); on under side white hairs; hairs of palpi and tuft of antennae pale orange-yellow; long hairs on femurs and tibiae white, slightly tinged with lichen-green; short hairs on tibiae and tarsi pale orange-yellow; tarsal joints broadly ringed with black; antennae light orange-yellow, some segments edged with xanthine-orange (iii) to argus-brown (iii); abdomen on under side white, tinged with lichen-green.

Exp. 48 mm.

Hab. Salisbury, 4. 12. '15. One specimen (the type) in coll. Janse, kindly presented by Father O'Neil, who has another specimen in his collection.

This species looks at first sight very much like a Striphnopterygid, from which it differs however entirely in structure. This genus comes evidently close to Phyllaliodes and may be a development of it.

Genus STAUIROPUS.

(Pl. V, fig. 4; Pl. VI, figs. 1-7.)

Stauiropus Germar. *Prod.* p. 4 (1811).Hmps. *Moths of India*, 1. p. 149.Meyr. *Brit. Lep.* p. 307.Spuler. *Schmett. Eur.* 1. p. 93.*Netria* Wlk. *Cat.* vi. p. 1504 (1855).Type *S. fagi*. Description made from *S. mediata*.

♂, ♀. Proboscis absent; palpi short, porrect, projecting beyond frons; first joint short and with a long tuft of hairs and hair-like scales; second joint about half as long, sub-cylindrical; third joint about half of second joint and both covered with hairs and hair-like scales; eyes large, rounded, glabrous; antennae almost half of costa, bipectinated for a little over $\frac{2}{3}$ rd of shaft and at the tip the pectinations get suddenly shorter, in ♂ about 12 times shaft, in ♀ about 8 times shaft; first joint of shaft sub-globular and with a tuft of hairs in front; fore tibia of ♂ with a broad bluntly rounded process, not quite as long as tibia; mid and hind legs with terminal spurs only, pointed into a curved hook and covered with hairs; about half way of the curve of this hook are on each side little rounded lobes; inner spur longer than outer; tibiae of fore and hind legs densely covered with hairs and some scales; femurs of all legs and tibiae of hind legs rather thinly clothed with hairs; tarsal joints of all legs tufted with hairs. Fore wing rather broad, sub-triangular; costa nearly straight; apex well rounded; termen oblique, rounded; tornus rounded; inner margin somewhat excurved at middle; *1b* indistinctly forked at base; *1c* faintly indicated, especially towards termen; 2 from $\frac{3}{4}$ th lower median, curved; 3 from well below lower angle; 4 from lower angle; 5 from just above middle of discocellulars, which are erect; lower discocellulars sending a small veinlet into the cell; 6, 7, 8, 9, 10 stalked; 6 from stalk at about $\frac{1}{4}$ th of 8; 7 from stalk at middle of 8; 9 from just beyond $\frac{3}{4}$ th of 8; 10 from beyond middle of origin of 6 and 7; 11 from upper median at $\frac{4}{5}$ th 12 parallel to costa. Hind wing triangular, broad; costa nearly straight; apex well rounded; termen well rounded, oblique; tornus well rounded; inner margin straight; *1a* nearly straight; *1b* forked at base, curved; a trace of *1c*; 2 from $\frac{2}{3}$ rd of lower median; 3 from well before lower angle; 4 from lower angle; 5 rather weak, from middle of discocellulars, which are almost erect and have each a faint veinlet in the cell; 6 and 7 on a stalk of half 6; 8 running close to upper median till beyond middle of cell, but not anastomosing with it, at base even slightly remote, then curved upwards to costa.

A large number of species were placed by various authors in this genus, but all these I had to remove to the genus *Desmeocraera*, owing to these species having four spurs on the hind legs and not two, and also on account of several other characters.

As I have not been able to study the type of this genus, I am not quite certain that *mediata* should be placed here, especially as the different authors do not quite agree in every respect as regards the characters of this genus. However, *mediata* cannot be placed in any other genus known to me and as these points of difference do not, on the whole, throw this species out, I think it safe to leave it here.

STAUROPOUS MEDIATA.

(Pl. V, fig. 4; Pl. VI, figs. 1-7.)

Ochrostigma mediata Wlk. *Cat.* xxxii. p. 412 (1865).Kirby. *Cat.* i. p. 603.

This species does certainly not come in *Ochrostigma* as the ♂ has the antennae not pectinated till the tip and they are pectinated in the ♀ also and not serrate, while the hind tibiae have only two spurs and not four; the fore wing has also no areole as given for *Ochrostigma*.

I have this species from Durban only and never met with it in any other locality. In Jan., Febr., March, Oct., Nov.

Larva feeds on *Ekebergia meyeri* Presl., and *Combretum gulinzii* Sond. (E. E. Platt).

Genus PHALERA.

(Pl. V, figs. 5, 6; Pl. VI, figs. 8-14.)

Phalera Hübn. *Verz. bek. Schmett.* p. 147 (1822).Dist. *Ins. Transv.* iv. p. 89.Hmps. *Moths of India*, i. p. 133.Spuler. *Schmett. Eur.* i. p. 101.Type *bucephala*. Description from *imitata*.

♂, ♀. Proboscis short and weak; palpi short, just reaching frons, obliquely upturned; first joint short, about $\frac{1}{3}$ rd of palpus, slightly curved; second joint longer than first, slightly curved; third joint short, about half of second joint, narrow; all joints covered with long hairs, scale-like hairs and scales in front and with some hairs above; eyes large, round and naked; antennae short, less than half of costa, bipectinate in ♂ till a little beyond middle (in *lydenburgi* and other species fasciculated or simple), in ♀ also bipectinate as in ♂, but pectinations carried further towards tip (in some species simple) (in the type of the genus which looks very much like *imitata* the joints of the antennae are globular and have on each joint a hair-brush at each side); first joint globular and with a hair-tuft in front; branches two times shaft and densely ciliated; fore tibia covered with dense hairs, especially on inner side; process rather broad and short, just reaching end of tibia, on upper side somewhat open where it is attached to the tibia, then flattened and twisted, ending in a blunt rounded point; mid tibia with two spurs; hind tibia with four spurs; spurs stout ending in a curved point, which has two rows of teeth, less conspicuous than in *Rigema*, and densely covered with hairs; femurs of all legs with long hairs on the outer side; tibiae, especially the hind tibia, with long hairs on the outer side; tarsi with spines on inner side and well covered with appressed hairs. Fore wing sub-triangular, rather broad; costa straight (well curved in ♀), curved towards apex; apex rounded; termen somewhat oblique, straight, slightly sinuate; tornus rounded; inner margin slightly curved; *1b* indistinctly forked at base; 2 from lower median at beyond $\frac{2}{3}$ rd; 3 from $\frac{1}{3}$ th 2-4; 4 from lower angle; 5 rather weak, from above middle of discocellulars, which are erect and nearly straight; a faint forked veinlet in cell; 6 from beyond middle of areole, which is narrow and long; 7, 8, 9, 10 stalked and from end of areole; 7 from a little beyond end of areole; 9 from 8 at $\frac{2}{3}$ rd the distance from end of areole to apex; 10 from stalk at $\frac{1}{4}$ th that distance; 11 from upper median at beyond $\frac{2}{3}$ rd; 12 parallel to costa. (In *lydenburgi* the venation of 6, 7 is somewhat different, in fact I expect some variations within the species as

found in *Antheua*, etc.; in *lydenburgi* 6 comes from near upper angle, 7 from end of areole, which is much shorter and broader than in *imitata*.) Hind wing broadly triangular; costa somewhat curved; apex well rounded; termen very oblique and well rounded; tornus rounded; inner margin straight; 3 from near lower angle; 4 from lower angle; 5 rather weak and from above middle of discocellulars, which are oblique at lower and more erect at upper discocellular; 6, 7 stalked for nearly $\frac{2}{3}$ rd of 6; 8 parallel and close to upper median, then oblique to costa; an indication of a bar at $\frac{1}{3}$ rd of upper median. Hairs on thorax rather short, forming irregular crests; a crest of spreading hairs on first abdominal segments.

There is close affinity between this genus and *Zana*, *Antheua* and *Rigema*, in fact very few distinct characters can be found. The irregular hairs on the thorax and the transverse lines of the fore wing are perhaps the most easily observed ones, while the shape of the fore wing of *Rigema* will make it easy to separate *Phalera* from this genus.

Phalera is distributed throughout Europe, Asia and Africa; three species have been found so far in South Africa.

Key to South African species:

- 1 a. Fore wing with a large rounded yellow patch at apex, filling terminal area from vein 5 to costa; antennae in both sexes bipectinate

imitata

- b. Fore wing not with such apical patch; antennae simple

2

- 2 a. Head red; thorax fuscous; abdomen red, except at terminus; wings on under side white; antennae ciliated

lignitea

- b. Head brown; abdomen orange-yellow striped with black towards terminal half; antennae fasciculated in ♂; fore wing on under side fuscous, hind wing light yellow

lydenburgi

PHALERA IMITATA.

(Pl. V, fig. 5; Pl. VI, figs. 8-14.)

Phalera imitata Druce. *A.M.N.H.* 6. xvii. p. 356 (1896).

I have a specimen in my collection from Durban which has been identified by Prof. Aurivillius as *Phalera imitata* and though it differs in many respects from the description, which was probably drawn up from one ♂ only and moreover came from Dar-es-Salaam, I think that the identification is correct. Its resemblance to *bucephala* makes it at once characteristic among the South African moths, but as there are several points of difference and as the ♀ is still undescribed, I give a more detailed description in supplement to the one given by Druce.

Sub-basal, antemedial and postmedial lines black and irregular; indications of a dark orbicular; reniform of ground colour, surrounded by white, often indistinct; three double wavy bands between antemedial and postmedial lines, diffused, somewhat darker than ground colour and each part filled in with whitish; postmedial line evenly curved from below costa to vein 4, followed by a brown line which borders the yellow apical patch; three black streaks along costa towards apex, separated from each other by yellow on the veins; an irregular sub-terminal brown line (preceded by light yellow) in yellow apical patch from apex obliquely inwards to vein 4 and then continued by a few yellow diffused spots and dentated outwardly on the veins; cilia brown. Hind wing of ♂ white, with orange hairs on inner marginal area; cilia slightly checkered with brown; in ♀ the hind wing is wholly suffused with fuscous except inner marginal area, which is more narrowly covered with yellow hairs

than in the ♂; cilia distinctly checkered with brown at the veins. Under side of ♂ whitish with the veins here and there scaled with black; fore wing densely suffused with fuscous except terminal area, especially at apex; three black costal streaks near apex, more distinct than on upper side in both sexes; hind wing thinly suffused with fuscous at the medial area; veins of both wings quite black at terminal half; palpi fuscous-brown at sides, scarlet in front; frons and some hairs of prothorax scarlet; some black narrow rings in some ♂ specimens on abdomen; ♀ with a broad black transverse band before terminal segment. My specimens are from Emangeni, Umtali, and Sawmills (S. Rhodesia); New Hanover, Karkloof, Sarnia, Durban and Umkomaas (Natal); in Jan., Nov., Dec.

PHALERA LYDENBURGI.

(Pl. V, fig. 6.)

Phalera lydenburgi Dist. *A.M.N.H.* 7. III. p. 463 (1899).

Dist. *Ins. Transv.* IV. p. 89, Pl. IV, fig. 12. ♀.

I have this species in both sexes from S. Rhodesia (Sawmills, Umvuma, Emangeni, Salisbury, Umtali) in Nov., Dec., Jan.

PHALERA LIGNITEA.

Phalera lignitea Mab. *Ann. Soc. ent. France*, LXVIII. p. 723 (1900).

This species is unknown to me and is given as from South Africa, without further indication of locality.

Genus RIGEMA.

(Pl. V, fig. 7; Pl. VI, figs. 15-21.)

Rigema Wlk. *Cat.* v. p. 1079 (1855).

Dist. *Ins. Transv.* IV. p. 91.

Type *vittata* Wlk. Description from *ornata*.

♂ and ♀. Proboscis short; palpi porrect, short, **hardly** reaching frons; first joint slightly longer than second joint; third joint about half of second; all joints with long, spreading hairs in front and shorter hairs above; frons with rather long spreading hairs; eyes large, naked, rounded; antennae of ♂ very shortly bipectinate for over half their length; branches very short, a little longer than width of shaft and terminally tufted with cilia; terminal half of shaft lamellate; first joint of shaft large, globular and tufted with long hairs in front; antennae in ♀ simple, ciliated; fore tibia with a process reaching till end of tibia, fitting in a hollow of tibia on upper part and flattened out from before terminal half; process and tibia with dense hairs; mid-tibia with two spurs, hind tibia with four; spurs moderate, ending in a curved point on which there are on inner side two rows of flat teeth, spurs covered with rather long hairs; femora of all legs moderately covered with long hairs on outer side; tarsi with thorns on inner side and covered with appressed hairs. Fore wing rather elongate; costa nearly straight, well rounded towards apex, so as to make the apex somewhat produced; apex acutely rounded; termen slightly sinuate and oblique, lobed at between 3 and 5; tornus well rounded; inner margin nearly straight; 1*b* faintly forked at base; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are somewhat oblique outwardly and straight, with indications of forked veinlet

in cell; 6 from areole, a little above the upper angle; 7 from areole just before its end; areole long, reaching till about $\frac{1}{3}$ rd upper angle to apex; 8 and 9 stalked for half the length of 9 beyond the end of the areole, stalk originating from end of areole; 10 almost from end of areole, but from beyond 7; 11 from beyond $\frac{2}{3}$ rd upper median; 12 parallel to costa; hind wing semicircular; costa arched at $\frac{1}{3}$ rd; apex produced from 8 to 7, then acutely rounded; termen very oblique, slightly lobed at 4; tornus well rounded; inner margin rounded and oblique; 1a straight; 1b curved; 2 from lower median at before $\frac{2}{3}$ rd; 3 from near lower angle; 4 from lower angle; 5 from above middle of discocellulars of which the lower is oblique and the upper nearly erect; 6 and 7 on a stalk of over $\frac{1}{3}$ rd and from upper angle; 8 parallel to upper median to near upper angle, then oblique to costa before apex; a faint bar at $\frac{1}{3}$ rd of upper median. Abdomen of ♂ with a forked tuft of hairs and lateral black spots as in *Antheua* and *Phalera*; hairs of thorax short, smooth or only very slightly crested. The venation appears to differ in some specimens as much as in *Antheua*, some specimens of *ornata* have vein 7, stalk of 8, 9 and 10 from end of areole; the length of stalk 6-7 of hind wing also varies somewhat; in *woerdeni* the areole is shorter (about $\frac{1}{10}$ th of wing length), 6 is from areole at just before middle; 7 from stalk of 8, 9 at $\frac{1}{4}$ th of stalk; 9 from 8 at $\frac{2}{3}$ rd distance of end areole to apex; 10 from stalk of 8, 9 at beyond $\frac{1}{3}$ rd of stalk and far beyond origin of 7.

Three species were placed in this genus by other writers, but I removed *aurifodinae* from here to *Antheua*.

The remaining two species may be separated as follows:

- 1 a. Abdomen orange-yellow above; thorax almost entirely yellow; fore wing with stigma at the end of cell and with a terminal dark shading **woerdeni**
- b. Abdomen black to near tip above; thorax yellow, much suffused with brown; fore wing without a stigma and with a broad terminal dark line which is much crenulated **ornata**

RIGEMA ORNATA.

(Pl. V, fig. 7; Pl. VI, figs. 15-21.)

Rigema ornata Wlk. *Cat.* xxxii. p. 437 (1865).

Dist. *A.M.N.H.* 6. xx. p. 204 (1897).

Dist. *Ins. Transv.* iv. p. 91, Pl. VIII, fig. 9.

Miss Barrett. *Ent. Month. Mag.* p. 124 (1902).

I have both sexes of this species from Transvaal (Pretoria, Waterval onder, Kaapmuiden, Noordkaap, Barberton); Natal (Karkloof, New Hanover, Pinetown, Durban, Umkomaas); S. Rhodesia (Emangeni); in Jan., Febr., March, May, Nov.

Larva feeds on grass (E. E. Platt).

RIGEMA WOERDENI.

Phalera woerdeni Snell. *Tijdschr. voor Ent.* xv. p. 45 (1872).

Rigema woerdeni Dist. *A.M.N.H.* 6. xx. p. 204 (1897).

Dist. *Ins. Transv.* iv. p. 91, Pl. VIII, fig. 8.

Only one ♀ in my collection from the Transvaal, but I do not know from what part.

Larva feeds on grass (E. E. Platt.)

Genus **LEUCOPHALERA** nov.

(Pl. V, fig. 8; Pl. VI, figs. 22-25.)

Type *elegans* spec. nov.

♂. Proboscis rudimentary; palpi porrect, just reaching frons; first and second joints of equal length; third joint about half of second; all joints covered with long spreading hairs, mixed with hair-like scales; head small; frons smooth, covered with moderate hairs; eyes smooth, large, rounded; thorax stout, covered with hairs; tegulae covered with scales; abdomen without crests and covered with hairs; antennae less than half of costa, bipectinate till tip; pecten about five times shaft and with cilia on both sides; first joint of shaft with a tuft of hairs on inner side; femora with long dense hairs on inner side; fore tibia with long dense hairs on inner side and with an almost straight process reaching a little beyond the tibia; mid and hind tibiae with long dense hairs on outer side; mid tibia with two spurs, hind tibia with four; spurs of nearly equal length, shorter than first tarsal joint, rather thick, covered with dense hairs and ending in a short, slightly curved point, which has two rows of teeth; tarsi covered with dense hairs. Fore wing elongate triangular; costa slightly curved inwards at middle and gently rounded towards apex; apex rounded; termen somewhat oblique, only very slightly sinuate; tornus rounded; inner margin straight; *1b* straight; 2 from $\frac{2}{3}$ rd of lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are erect, nearly straight; 6 from upper angle; 7 and stalk of 8, 9, 10 from end of areole; areole rather short, triangular; 9 from 8 at $\frac{2}{3}$ rd the distance of end of areole to apex; 10 from $\frac{1}{3}$ rd that distance; 11 from $\frac{1}{3}$ rd upper median; 12 parallel to upper median and vein 11. Hind wing semicircular; costa somewhat curved near base, then straight; apex rounded; termen very oblique, somewhat hollowed out at vein 5 and very much rounded beyond vein 3 forming an even curve with tornus, which is much rounded; inner margin straight beyond *1a*; *1a* and *1b* straight; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, of which the lower is somewhat oblique and the upper erect; 6 and 7 from upper angle, very shortly stalked; 8 parallel and closely approximated to upper median till near upper angle, then straight to apex.

This genus comes close to *Phalera*, from which it differs mainly in process of fore tibia, position and covering of palpi, shape of fore wing and hind wing, much shorter stalk of 6, 7 of hind wing and in the general pattern of the fore wing.

LEUCOPHALERA ELEGANS spec. nov.

(Pl. XIV, fig. 4; Pl. V, fig. 8; Pl. VI, figs. 22-25.)

♂. Posterior $\frac{2}{3}$ rd of thorax, tegulae and ground colour of fore wing pure white; most hairs of palpi, frons, tufts on antennae, remainder of thorax and ground colour of hind wing and of both wings on the under side buff-yellow (iv); shaft and branches of antennae black; hairs of femora and tibiae and under side of thorax fuscous and fuscous-black (xlv); tarsi black, ringed with white; abdomen on upper side and sides ochraceous-orange (xv) (my specimen is somewhat greasy so the colour is probably lighter), a lateral series of black spots; one on each segment. Fore wing: some black basal scales from costa to vein 12, indicating basal line; antemedial line double, broad, with a faint white line between them, somewhat curved outwardly, inner line brazil-red (i), continuous, very slightly dentate inwardly on lower median, plical fold, and *1b*, outer line

black, much indented on inner side at upper and lower median, plical fold and 1*b*; some black oblique scaling along costa before and beyond it; median line faint, smoke-grey (xlvi), narrow, somewhat incurved below lower median and dented outwardly on the veins; postmedial line, like antemedial line, double, with a thin white line between them, but inner line black, outer line brazil-red, becoming orange-fuscous (ii) below vein 3; inner black line faint, mixed with orange-rufous scales between veins 2 and 3, almost straight till vein 4, then somewhat curved to tornus; both lines indented outwardly on most of the veins, especially the black line; immediately beyond the brazil-red band, but separated from it by a somewhat broad white line, another band, somewhat diffused on the edges, rather broad near costa and tapering towards vein 3, then curved inwardly and faint between vein 2 and plical fold; this band is brazil-red with here and there some white scales between the costa and vein 7, then brazil-red and more or less irrorated with black scales, most densely between 3 and 7; a sub-terminal series of black lunate spots between the veins, from vein 2 to 7; cilia ivory-yellow except at tornus, where they are mixed with black and brazil-red hairs and scales; hind wing: all veins and plical fold irrorated with fuscous black along postmedial area joining a terminal irrorate line; cilia coloured like hind wing. Under side: two or three fuscous oblique costal strigae on veins 10–12 near apex; all veins of both wings more or less strongly irrorated with fuscous and fuscous-black from medial line to termen; plical fold also irrorated for a short distance; fore wing with a sub-terminal fuscous-black shading from tornus to vein 7, towards which it becomes narrower, undulating inwardly between the veins; a more pronounced fuscous-black terminal line, somewhat broken up by ground colour between most of the veins, well sinuated inwardly between the veins and extending from 1*a* to 8; cilia of ground colour, tipped with ivory-yellow; hind wing with a very thin fuscous-black terminal line; cilia as in fore wing.

Exp. 60 mm.

Hab. S. RHODESIA (Umtali), 1917. One ♂ only, but two other ♂s are in Father O'Neil's collection.

This beautiful species has been presented to me by Father O'Neil, but I understand that he has not caught it himself. Though slightly greasy, it is in fairly good condition.

Genus CHADISRA.

(Pl. V, fig. 9; Pl. VI, figs. 26–28; Pl. VII, figs. 1–6.)

Chadisra Wlk. *Trans. Ent. Soc. Lond.* ser. 3, 1. p. 81 (1862).

Hmps. *Moths of India*, 1. p. 159.

Schaus. *Trans. Ent. Soc. Lond.* p. 311 (1901).

Type *bipars* Wlk. Description made of *curvilinea*.

♂, ♀. Proboscis rather stout; palpi upturned, almost reaching vertex of head, covered with scales and hairs; first joint well curved and about $\frac{1}{3}$ rd of palpus in length; second joint almost two times first joint, cylindrical; third joint very small, about $\frac{1}{3}$ rd of first joint; eyes naked, large, rounded; antennae about half of costa, in ♂ dentate and fasciculate in some species (*curvilinea*), bipectinate till tip in others; in ♀ ciliate or shortly bipectinate; first joint with a large anterior and posterior tuft of scales and hairs; femora and tibiae covered with hairs and scale-like hairs; tarsi with spines on inner side and covered with scales; fore tibia with a keel shaped process, which is rather short and blunt in the ♂, longer and ending in a curved point in the ♀; on the edges of this process are rows of stiff hairs and the process itself is partly hidden in

the tibia; mid tibia with two terminal spurs, covered with scales and ending in a curved point which has teeth on the inner side; outer spur about $\frac{1}{4}$ th shorter than inner spur; hind tibia with four spurs, in structure and proportion like spurs of mid tibia; a tuft of scales on mid and hind tibiae at $\frac{2}{3}$ rd of their length.

Fore wing rather narrow; costa gently curved till vein 12, where it has a bulge outwardly, then almost straight to apex, which is rounded; termen very oblique, well curved between veins 2 and 7 and somewhat sinuate up till 11; tornus very acute; inner margin incurved beyond tornus, then outcurved at $\frac{1}{3}$ rd; 11 well curved (like inner margin), indistinctly forked; lower median upcurved; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{4}{5}$ th 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are erect; 10 from upper median from before upper angle at about half the distance of vein 5 to upper angle, then anastomosing with 6, 7, 8, 9 to form an areole as long as nearly half of 10; 6 from areole at $\frac{2}{3}$ rd; 7 stalked with stalk of 8, 9 for half length of 7; 9 from 8 at $\frac{3}{4}$ th of 8; 10 from stalk of 7, 8, 9 well beyond the areole; 11 from upper median at $\frac{2}{3}$ rd; 12 parallel to costa, ending at $\frac{2}{3}$ rd of costa. Hind wing subtriangular; costa slightly arched; apex obliquely rounded; outer margin well curved, sinuate; tornus rounded; inner margin incurved; 11 and 12 somewhat incurved; 2 from before $\frac{2}{3}$ rd lower median; 3 from $\frac{4}{5}$ th of 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are erect and have indications of a forked vein in the cell; 6 and 7 stalked for $\frac{1}{3}$ rd of 6; 8 upcurved at base, downcurved at $\frac{1}{3}$ rd then obliquely upcurved to near apex; upper median well curved and connected to 8 by a bar at before half its length. The hind wing of all species coming in this genus have all, as far as I know, a dark mark at the tornus, intersected by one or more light striae. Of the other South African Notodontids only *bicolor* has an indication of such a spot, but that it does not come in this genus at all is clearly shown by its structure, as it has vein 7 of fore wing from *before* the free part of vein 10 and not as in *Chadisra*; moreover the broader fore wing, the heavier build and the very long pectination of the ♂ antennae place it at once in *Antheua*. I therefore take it out of *Chadisra*, leaving only 4 species, which may be distinguished as follows:

- | | |
|---|-------------------|
| 1 a. Antennae of ♂ bipectinate, with long branches | 2 |
| b. Antennae of ♂ minutely serrate and fasciculate | 4 |
| 2 a. Apex of antennae ciliated | 3 |
| b. Apex with short branches, colour of fore wing uniform | rosinaria |
| 3 a. Colour of basal part of fore wing yellow, terminal half rufous mixed with grey | semiflava |
| b. Whole fore wing uniformly ochreous, suffused with red-brown and slightly irrorated with black | uncifera |
| 4 a. Basal half of fore wing pale yellow, irrorated and in parts clouded with brown | persimilis |
| b. Basal half of fore wing pinkish ochreous-grey, in some specimens lighter, in others darker than the terminal half, but never pale yellow | curvilinea |

CHADISRA CURVILINEA.

(Pl. V, fig. 9; Pl. VI, figs. 27, 28; Pl. VII, figs. 1-6.)

Hyperaeschra curvilinea Swinh. *A.M.N.H.* 7. XIX. p. 207 (1907).

This species evidently does not come in *Hyperaeschra*, a genus so far not recorded from S. Africa for other species, as the inner margin of the fore wing has no tuft of scales, the palpi have scales as well as hairs, and 6 of fore wing

comes from the areole. No doubt the pattern of the fore wing has misled Swinhoe, as it is very much as in the species of *Hyperaeschra*.

My ♀s agree well with the original description, which, however, is very short and makes no mention of greenish shading in the fore wing and on the thorax as shown in some of my specimens. My two ♂s are much darker and less distinctly marked, but this species is very variable as regards colouration and I have seen a ♀, which is in Mr Platt's collection, and caught in Durban 15. 11. '17 by Mr Bell-Marley, in which the green is much brighter and more distinct, while the brown of the medial part is much darker and there is a terminal black irroration. Its tegulae and the basal half of the fore wing are purplish brown, and the length of the fore wing is 25 mm. I have seen another specimen which was of a more uniform brown with no trace of green at all. My specimens are all from Durban, in March, May, June.

Larva feeds on *Chaetachme aristata* Planch, and *Trema bracteolata* Blume (E. E. Platt).

CHADISRA SEMIFLAVA.

Chadisra semiflava Hmps. *A.M.N.H.* 8. v. p. 462 (1910).

One ♂ specimen in my collection from Durban and I have seen another somewhat darker specimen which is in E. L. Clark's collection.

CHADISRA PERSIMILIS.

Chadisra persimilis Hmps. *A.M.N.H.* 8. v. p. 463 (1910).

I have seen a specimen in Platt's collection, which I take to belong here. As, however, the ♀ of *persimilis* as well as *semiflava*, which two species are very similar in wing pattern, have not been described, I think that only further breeding of specimens can decide on this point.

CHADISRA UNCIFERA.

Chadisra uncifera Hmps. *A.M.N.H.* 8. v. p. 459 (1910).

I have a ♂ in my collection, which I think comes here, but which is in too poor condition to be quite certain. However, it is co-specific with a ♀, which is in fine condition and sharply marked, bred by Mr Platt at Durban 4. 9. '18, and which I certainly think has to be placed here. That specimen agrees in practically every detail with the description and has the antennae pectinated as in the ♂ except that the branches are somewhat shorter.

Mr Platt informs me that the larva of this species fed on *Dombeya cymosa* Harv.; it made a subterranean cocoon on May 5th, but did not pupate until August. Moth emerged Sept. 4th.

CHADISRA ROSINARIA.

(Pl. VI, fig. 26.)

Chadisra rosinaria Hmps. *A.M.N.H.* 8. v. p. 461 (1910).

Three specimens of this species are in my collection, two ♂s and one ♀, all from Natal (♀ from Inchanga). In my specimens not only the fore tibiae have a black ring, but this ring is present on all the tibiae; in my ♀ there is also a black narrow discoidal striga, more faintly marked in the ♂s and not mentioned in the original description. My ♀ is 52 mm.

Genus HOPLITIS.

(Pl. VII, figs. 7-12.)

Hoplitis Hübn. *Verz. bek. Schmett.* p. 147 (1816).Wlk. *Cat.* v. p. 990.Spuler. *Schmett. Eur.* i. p. 93.*Hybocampa* Led. *Verh. Zool.-Bot. Verein zu Wien*, II.*Atrasana* Wlk. *Cat.* VII. p. 1749 (1856).Type *milhauseri*. Description from *dasychiroides*.

♂, ♀. Proboscis very rudimentary; palpi short, just till frons, porrect, covered with dense hairs; first joint curved; second joint straight, nearly of same length as first joint; third joint minute, sub-globular; eyes naked, large, globular; frons with a tuft of hair; antennae about half length of costa, bipectinate for $\frac{3}{4}$ th their length; first joint of shaft globular and with a tuft of hair in front; branches of ♂ about eight times shaft, of ♀ about three times shaft; branches densely ciliated on outer side; fore tibia with a straight process rounded at tip and a little longer than the tibia; mid tibia with two moderate spurs; hind tibia with four spurs; spurs acuminate, point with two short ridges of teeth; all legs densely covered with rather long hairs; tarsi covered with hairs, scales and spines.

Fore wing rather narrow; costa slightly concave, well rounded towards apex; outer margin very oblique, rounded; inner margin nearly straight; apex rounded; tornus well rounded; 1 *b* with a rather long fork; 2 from beyond $\frac{2}{3}$ rd lower median; 3 from beyond $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are very oblique outwardly and somewhat curved between 4 and 5; 6 from stalk just beyond upper angle; 7 from 8, 9 from before middle of 7; 9 from 8 at middle; 10 from stalk of 7, 8, 9 from before 7; 11 from upper median at $\frac{3}{4}$ th; 12 parallel to costa. Hind wing sub-triangular; costa gently arched; termen very oblique, straight, somewhat lobed at 3 and 1 *b*; inner margin nearly straight; apex and tornus somewhat rounded; 1 *a* long, straight; 1 *b* somewhat curved; 2 from $\frac{3}{4}$ th lower median; 3 from near, 4 from lower angle; 5 from middle of discocellulars, which are curved between 4 and 5, straight between 5 to 7; 6 and 7 on a stalk of nearly middle of 6; 8 slightly upcurved at base, then close to upper median with which it runs parallel till near upper angle, then to near apex. In the ♀ the fore wing is more broad and the termen more arched.

Key to South African species:

- | | | |
|------|---|----------------------|
| 1 a. | Shaft of antennae crimson | 2 |
| b. | Shaft of antennae brownish-grey | 3 |
| 2 a. | Fore wing brownish-grey; costa with whitish-grey band from $\frac{1}{3}$ rd of wing to near apex; postmedial line from just before 1 <i>b</i> and extended beyond vein 4 to the black fascia going to apex; abdomen fuscous-black on basal third only, then grey | phyllocampa |
| b. | Fore wing uniform grey; postmedial line from inner margin at $\frac{1}{3}$ rd and running along it till $\frac{2}{3}$ rd, then parallel to tornus and termen as far as vein 4, not connected with the black fascia going to apex; abdomen dorsally fuscous-black for its whole length except the apex, which is irrorated with grey | dasychiroides |
| 3 a. | Fore wing of ♂ brown; a broad oblique whitish band and outer margin beyond the curved black streak whitish; hind wing of ♂ with brown borders | postica |
| b. | Fore wing greyish-fuscous; no whitish band across the wing; hind wing of ♂ white, and with a black patch at tornus only; ♀ with the outer margin very narrowly irrorated with fuscous | concolor |

HOPLITIS POSTICA.

Atrasana postica Wlk. *Cat. vii.* p. 1750 (1856).

Hoplitis postica Trim. *Trans. Ent. Soc. Lond.* p. 7 (1909).

Trimen compares this species with *phyllocampa* and mentions that the shaft of the antennae is arenaceous, a character not mentioned by Walker. The brown border of the hind wing in the ♂ would distinguish this species from all other South African forms in which the hind wings are pure white with a dark patch at the tornus only. There is a possibility, however, that Walker's specimen was a ♀ and not a ♂. This species is not known to me from specimens, though Sir George Hampson informs me that it is the common Transvaal and Natal species.

HOPLITIS DASYCHIROIDES.

(Pl. VII, figs. 7-12.)

Hoplitis dasychiroides Roths. *Nov. Zool.* xxiv. p. 250, Pl. V, fig. 5 (1917).

There can be little doubt that my specimens belong to this species, though there are a few points of difference, but considering that the author had only two ♀s to describe from and that the locality of his specimens is rather remote from South Africa, one would expect some differences.

The branches of the antennae of my specimens are raw sienna (iii) and not black; the abdomen is fuscous-black for nearly the whole dorsal part, though one of my ♂s is more irrorated with grey hairs; the postmedial line is not as distinct in the figure as in some of my specimens, but in one of my ♂s it is almost absent. It is peculiar that some of my specimens were collected together with *phyllocampa* on the same date and in the same locality, and that I did not get any ♀s of *phyllocampa*, but only one ♀ of *dasychiroides*. It is quite well possible that breeding will prove that *dasychiroides* is a variety of *phyllocampa*.

One ♂ from Umtali, 5. 1. '18 (Janse); two ♂s from Emangeni (S. Rhodesia), 18. 1. '18 (Janse); a ♀ from Kourulene (Transvaal), 23. 12. '08 (Mr Robertson); one ♀ from Salisbury (Father O'Neil).

HOPLITIS PHYLLOCAMPA.

Hoplitis phyllocampa Trimen. *Trans. Ent. Soc. Lond.* p. 4, Pl. I, figs. 2, 2a (1909).

My specimens differ very little from the description and the plate. I have six ♂s, all from Emangeni (South Rhodesia), 18, 19. 1. '18 (Janse).

Larva feeds on *Combretum gueinzii* Sond. (E. E. Platt).

HOPLITIS CONCOLOR spec. nov.

(Pl. XIV, figs. 5, 6.)

♂. Head mouse-grey (li) with a transverse fuscous-black (xlv) fascia before the antennae, mixed with brown in the centre; palpi light buff (xv) on the sides, thickly irrorated with prussian-red (xxxix); hairs at base of antennae pinkish-buff (xxix); shaft tawny-olive (xxix) with some white scales; branches cinnamon-buff (xxix); prothorax pinkish-buff; remainder of thorax, abdomen and ground colour of fore wing smoke-grey (xlv); patagia edged with pinkish-buff, centre irrorated with fuscous; fore wing irrorated with fuscous and black scales; all markings black; sub-basal line faint, from costa to 1b, where it forms a black streak towards antemedial line; antemedial line double, faint from costa to lower median at origin of vein 2, then angled inwardly at plical fold and 1b; a black shading or fascia before it at plical fold; medial line faint, double,

distinct at discocellulars, dentate outwardly at vein 2, plical fold and 1*b*; postmedial only indicated by a somewhat darker shading; a broad curved fascia from before tornus to termen at vein 4, broad at inner margin, pointed towards termen, somewhat irregular at the veins; some fuscous-black oblique short strigae between 4 and 5, 5 and 6, 6 and 7; terminus of veins 5, 6, 7, 8 with some black scaling; a faint dark sub-terminal line as far as vein 4; a more distinct terminal line; cilia of ground colour, except at terminus of veins, where there are some black scales. Hind wing shiny white; some dark irroration at costa; a quadrate black patch at tornus between 1*b* and near 2; some black scaling above it; cilia white, except for some black scales at the veins and beyond patch on tornus. Under side: thorax and hairs on legs buff-pink (xxviii); wings and abdomen shiny whitish; fore wing at costal, terminal and inner marginal regions irrorated with fuscous; four white specks at costa near apex; cilia fuscous, with a light basal line, which is interrupted with black at the veins; hind wing with some fuscous antemedial, medial, and postmedial irroration from costa to upper median; cilia as on upper side.

♀. Fore wing with space between sub-basal and antemedial lines very thickly irrorated with fuscous and black; postmedial lines indicated by a double light shading from before black fascia at inner margin to costa; some whitish oblique fascia before and beyond black fascia between veins 5-6, 6-7, 7-8; in cotype a whitish line beyond the black from before tornus to vein 4 and in that specimen the abdomen is pinkish-buff (xxix); hind wing with irroration broader than in ♂; a narrow irroration along outer margin; cilia fuscous at base, whitish at tips except at veins and patch on tornus; patch on tornus with a more distinct white line between upper and lower part and well extended beyond 1*b* to inner margin. Under side with the irroration more dense.

Exp. ♂ type, 52 mm.; cotype, 48 mm.; ♀ type, 63 mm.; cotype, 56 mm.

Hab. ♂ type, Salisbury, 13. 3. '17 (bred by Father O'Neil); ♀ type, Salisbury, 16. 3. '17 (also bred by Father O'Neil); larva feeds on a native bush called "Mutowe"; ♂ cotype, Krantzklouf, 31. 3. '18 (bred by E. E. Platt), all in collection Janse; ♀ cotype from Barberton, 14. 1. '09 (G. W. Jeffery), in collection Transvaal Museum. This species is readily identified by the fascia from near tornus to vein 4, the colour of the shaft of the antennae and the light coloured abdomen.

There is a possibility, that this species and *A. postica* will prove to be the same, but judging from the description it is not so. Sir George Hampson informs me, that *A. postica* is the common Transvaal and Natal species with the black patch at anal angle of hind wing. This, however, gives no clue, as all South African species known to me have such a patch, but it is strange that I have not met with this species yet.

Genus GALONA.

(Pl. V, fig. 10; Pl. VII, figs. 13-17.)

Galona Karsch. *Ent. Nachr.* xxi. p. 363 (1895).

Type *serena*.

♂. Proboscis absent; palpi porrect, short, but longer than in *Amyops*, just reaching frons, densely covered with hair-like scales; first joint with rather long tuft in front; second joint longer than first, sub-cylindrical; third joint nearly half of second, somewhat pointed; eyes naked, large and rounded; antennae about half of costa, bipectinate except near the tip, which is bi-

serrate; branches long, longer than in *Amyops*, about 8 times shaft, ciliated on anterior side; fore tibia with moderate, narrow, pointed process, hidden in long dense hairs; mid tibia with terminal pointed spurs, nearly as long as half of first tarsal joint; hind tibia with two pairs of spurs, slightly curved at the points; all femora and tibiae densely covered with long hairs; tarsi of all legs with spines on inner side and covered with scales and hair-like scales; claws, large, curved. Fore wing rather broad, sub-triangular; costa slightly incurved; apex rounded; termen obliquely rounded, sub-crenulate; tornus well rounded; inner margin excurved; $1b$ forked at base; 2 from beyond $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle, well curved; 5 from above middle of discocellulars, which are curved at lower half and have an indistinct forked veinlet in cell; 6 from just below upper angle; 7 touching stalk of 8, 9 at middle of 7 to form a long areole, which is longer than half distance from upper angle to apex, and very narrow; 8 and 9 stalked for half length of 8 beyond end of areole; 10 from areole at $\frac{4}{5}$ th; 11 from upper median at about $\frac{2}{3}$ rd; 12 parallel to costa. Hind wing triangular; costa much excurved at middle; apex rounded; termen rounded; sub-crenulate; tornus well rounded; inner margin rounded; $1a$ straight; $1b$ somewhat curved; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd distance 2 to 4; 4 from lower angle, curved; 5 from middle of discocellulars, which are erect, straight, and have a faint veinlet at lower half into the cell; 6 and 7 stalked for nearly half of 7, and from upper angle; 6 well curved; 8 closely parallel to upper median till end; upper median incurved at basal half, excurved at terminal half; frenulum rather long.

GALONA SERENA.

(Pl. V, fig. 10; Pl. VII, figs. 13-17.)

Galona serena Karsch. *Ent. Nachr.* xxi. p. 363, Pl. III, fig. 1 (1895).

♀. *Galona pyrrotricha* Karsch. *Ent. Nachr.* xxi. Pl. III, fig. 2 (1895).

I have no doubt that the South African specimens I have seen belong here, though there are a few points of difference. No mention is made of the black postmedial curved streak from vein 3 to inner margin and it is also not shown in the figure of the ♂, but it is present in the figure of the ♀; the head, thorax, antennae and legs are dark fuscous, not black as stated; no mention is made of the dark fuscous abdominal patch on dorsal side; the white of the fore wing and tegulae has a pinkish tinge and is not pure white and my ♂s are somewhat larger, 50 mm.

I have further seen a ♀ from Shamva (S. Rhodesia), which is in Father O'Neil's collection, which clearly shows that *G. pyrrhotricha* is the ♀ of *G. serena*.

One ♂ in my collection is from Que-que (South Rhodesia), kindly presented to me by Dr Péringuey, and I have another badly damaged ♂ from the same locality. No dates were given.

The ♀ was taken in Dec. 1917 and has the white of the fore wing and tegulae distinctly pink.

Genus AMYOPS.

(Pl. V, figs. 11-14; Pl. VII, figs. 18, 19.)

Amyops Karsch. *Ent. Nachr.* xxi. p. 362 (1895).

Melebaeas Dist. *Ins. Transv.* iv. p. 93 (1903). (Type *gigas*.)

Type *ingens*. Description from *gigas*.

♂. Proboscis absent; palpi very short, porrect, hardly reaching frons; first joint as big as second and third together; third joint very small, globular;

first and second joints with scale-like hairs on under and upper side; eyes very large, round, naked; antennae about $\frac{1}{3}$ rd of costa, bipectinate except last ninth part; pectination about four times shaft, gradually tapering towards apex, which is serrate; first joint of shaft with a dense tuft of hair; fore tibia with a somewhat curved, broad process, rounded at tip, nearly as long as tibia and towards the inner side fringed with long hairs; mid and hind tibiae with two terminal spurs which are short and pointed; femora and tibiae of all legs covered with very long hairs; tarsi of all legs on inner side with a large number of spines and further covered with scales.

Fore wing rather long; costa nearly straight, except the apical part which is well rounded; apex somewhat rounded; termen obliquely rounded; inner margin straight; $1b$ well curved at base; 2 from lower median at beyond $\frac{2}{3}$ rd; 3 from well before lower angle; 4 from lower angle; 5 from middle of discocellulars which are erect; 6 from before $\frac{1}{3}$ rd of areole; 7 from just before end of areole; 8 and 9 from end of areole, stalked for over middle of 8; 10 from upper median at $\frac{8}{9}$ th, then anastomosing with stalk of 8, 9 a little beyond 7 to form the areole, which is narrow and as long as half length of vein 10; 11 from upper median at $\frac{2}{3}$ rd; 12 parallel to costa. Hind wing triangular; costa very much arched; termen obliquely rounded; inner margin rounded; apex and tornus well rounded; $1a$ and $1b$ nearly straight; 2 from $\frac{2}{3}$ rd lower median; 3 from well before lower angle; 4 from lower angle; 5 from middle of discocellulars, which are erect; a forked veinlet into the cell; 6 and 7 from upper angle, stalked for less than half of 6; 8 free, remote and parallel to upper median, then to apex; frenulum very long; abdomen with dorsal and lateral tufts of spreading hairs.

I have no doubt that *Melebaeas* Dist. and *Amyops* are the same, though there is one small difference; vein 6 of fore wing namely does not come from the upper angle, but from the areole. This character varies, however, in species of other genera as well. Distant's brief description is insufficient, but as I am sure of the correct identification of my specimens, as the very good figure enables one to be, I could very carefully compare this genus with the fairly full description given by Karsch. I do not think that this genus is directly related to *Hoplitis*, as one would think from Distant's comparison, as *Hoplitis* has no areole, 4 spurs on the hind legs; upturned and quite long palpi; and the shape of the fore wing is very different. Only one species is found so far in South Africa, the other species (*A. ingens* Karsch) is from Togo.

AMYOPS GIGAS.

(Pl. V, figs. 11-14; Pl. VII, figs. 18, 19.)

Hoplitis gigas Dist. *A.M.N.H.* 7. III. p. 463 (1899).

Melebaeas gigas Dist. *Ins. Transv.* IV. p. 93, Pl. IV, fig. 6.

I think the description was drawn up from a very poor, faded specimen; the colour description does not correspond with the figure in many ways. The plate, however, is very good.

There is a possibility that Karsch's *A. ingens* is the same as *A. gigas*; they are, at any rate, very much like each other.

I have this species from Barberton (Miss de Beer); and a fine ♂ from S. Rhodesia (Umtali), 5. 1. '18 (Janse).

Genus *PHYCITIMORPHA* nov.

(Pl. VIII, figs. 1-5.)

Type *stigmatica* spec. nov.

♂, ♀. Proboscis present; frons with a rounded prominence covered with scales and short hairs; palpi upturned, rather long, reaching vertex of head; first joint small; second joint long, narrow, cylindrical, slightly curved; third joint as long as first, roundly pointed; all joints covered with scales and hair-like scales, in front moderately fringed with scales; eyes large, rounded, smooth; antennae over half of costa, bipectinate till tip in ♂, till near tip in ♀; pectination in ♂ four times shaft and with cilia on two sides, in ♀ two times shaft; a very small scale-tuft on first joint of shaft; thorax covered with rather loose scales; legs rather slender, mainly covered with scales; femora sparingly fringed with moderately long hairs; tibiae fringed with rather short hairs on inner and outer sides; fore tibia rather short, about $\frac{2}{3}$ rd of femur, and with a hollow process which ends in a point and does not reach till end of tibia; first joint of tarsi very long, longer than tibia (in one specimen both fore legs have four tarsal joints, but in the other two specimens there are five), and they are covered with scales on outer, with scales and spines on inner side; mid tibia with two spurs; hind tibia with four spurs; longest spur about $\frac{1}{3}$ rd of tibia, outer spur $\frac{2}{3}$ rd of inner; spurs covered with scales, and ending in a nearly straight naked point. Fore wing rather narrow in ♂, a little broader in ♀; costa slightly curved, in ♀ a little more curved; apex rounded; termen erect and straight till vein 4, then curved towards tornus, which is rounded; inner margin straight; 1b forked at base, straight; 2 from before $\frac{3}{4}$ th lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from above middle of discocellulars, which are erect; areole broad, length a little over two times breadth; 6 from areole well before the end; stalk of 7, 8, 9 from end of areole; 7 from $\frac{1}{3}$ rd distance end of areole to apex; 9 from stalk at half that distance; 10 from areole at middle; 11 from upper median at $\frac{1}{3}$ rd; 12 parallel to costa. Hind wing nearly trapezoid; costa slightly arched; apex rounded; termen oblique and gently curved from apex to vein 3, then forming a rounded lobe and then oblique to tornus; tornus well rounded; inner margin straight; 1a and 1b somewhat curved; 2 from lower median at a little beyond middle; 3 and 4 from lower angle; 5 from just above middle of discocellulars, which are erect at upper and oblique at lower part; 6 and 7 stalked for $\frac{1}{3}$ rd of 6; 8 approximated to upper median at before middle, then straight to apex. This genus comes evidently near *Scrancia*, from which it differs, however, in many respects. It contains two species at present, which may be distinguished as follows:

- 1 a. Branches of antennae of ♀ two times shaft; fore wing with a linear stigma; 7 from stalk of 8, 9 **stigmatica**
- b. Branches of antennae of ♀ only once the shaft; fore wing with the stigma round; 7 from end of areole. **congruata**

PHYCITIMORPHA *STIGMATICA* spec. nov.

(Pl. XIV, fig. 8; Pl. VIII, figs. 1-5.)

♂, ♀. Ground colour of fore wing, thorax and legs light drab (xlvi), thickly irrorated with fuscous-black except mid and hind legs, which are thinly sprinkled with it; palpi fuscous (xlvi); frons saccardo's umber (xxix) mixed with fuscous-black hairs; patagia cream-buff (xxx) mixed with orange-rufous (ii); vertex orange-rufous mixed with fuscous-black; a black patch of hairs in

centre of vertex and between patagia; branches of antennae bone-brown (xl), of shaft, tilleul-buff (xl); abdomen cream colour tinged with drab (xlvi); fore wing sub-basal only represented by a few black scales; antemedial line black, rather sharply defined and erect, followed by a light coloured line of ground colour, very oblique below costa, then angled inwardly at cell and below lower median; medial line black, well defined, erect and preceded by some whitish scales, angled inwards along upper median, curved in and below cell and outwardly oblique beyond vein 1*b*; a long and narrow black stigma at end of cell, surrounded by a ring of ground colour; postmedial line erect, double, inner one diffused fuscous-black and followed by whitish scaling, outwardly oblique to stalk 7, 8, 9, then incurved between stalk and vein 4, then excurved at vein 3, incurved below vein 2 and angled outwardly at 1*b*; a dark diffused sub-terminal shading from near apex to tornus and preceded by diffused light scaling, which begins along costa where there are two whitish points; the shading is irregularly dentate on the veins, incurved at vein 5 and excurved at 3; a distinct black terminal line from costa to 1*b*, interrupted on the inner side by the veins; cilia of ground colour. Hind wing of ♂ pure white, with a fine buffy-brown (xl) terminal line; cilia white; in the ♀ the hind wing is also pure white, but very thinly irrorated with fuscous and the terminal line is fuscous. Under side: fore wing uniform hair-brown (xlvi), hind wing pure white in ♂, the ♀ has the medial line represented by dark irroration and the terminal half of the wing is irrorated with fuscous-black.

Exp. ♂, 34 mm.; ♀, 32 mm.

Hab. ♂ type from Umvuma, 25. 12. '17; ♀ type from Shangani (S. Rhodesia), 10. 5. '18 (Miss Chamberlain); a ♂ cotype from Karkloof (Natal), 24. 1. '17 (Janse).

PHYCITIMORPHA CONGRUATA spec. nov.

(Pl. XIV, fig. 7.)

It is possible that a new genus has to be formed for this species, but as I have only one ♀, I place it provisionally here, though it differs from the typical species in the following points: palpi more densely scaled in front and less upturned; frons with a tuft of rather long hairs; antennae with the branches as long as thickness of shaft; fore wing with 7 from end of cell; hind wing with 3 a little apart from 4; stalk of 6, 7 a little shorter and 8 connected with the upper median by a short bar at about middle; shape of fore wing still more like a *Pyralline* and hind wing more ample.

♀. Ground colour of head at sides, thorax, abdomen, legs and fore wing light mouse-grey (li); hind wing suffused with the same colour; palpi at sides sprinkled with white; frons with a tuft of fuscous hairs (xlvi); patagia tipped with white scales; fore wing with a fine sub-basal line, which is black and well defined, from obliquely inwards to upper median, then outwardly oblique below lower median, then curved inwards to vein 1*b*; antemedial line black, well defined, very near to medial line, from costa erect to vein 11, then along this vein to upper median, then angled outwardly into the cell, then erect to near lower median, then obliquely inwards to origin of vein 2, then angled outwards below vein 2 and obliquely inwards to plical fold, then erect to inner margin; medial line broad, very diffused, erect from costa to inner margin; a dark, rounded stigma on discocellulars, partly filled in and surrounded with white scales; postmedial line double, black, with scales of ground colour before, between and beyond it; from costa to vein 4 erect, second line indistinct from costa to vein 6; the two lines are very broad between 6 and 4, then thin again and oblique to vein 2 where the first line ends, the second line is continued as

a faint shading; some light coloured sub-terminal series of elongated spots on the veins from costa to tornus and two fuscous-black elongated spots along the costa between postmedial and sub-terminal lines; some black irroration before and beyond sub-terminal lines on veins 1*b* to 6; a terminal black line, interrupted on inner side of the veins; a vinaceous-fawn (xl) tinge except on veins and along costa on the area before medial line and beyond postmedial line; cilia vinaceous-fawn with a lighter basal line; hind wing shiny pallid mouse-grey (li) suffused on the veins with light mouse-grey; a suffused discoidal light drab (xlvi) mark; an indication of a postmedial light drab suffusion, while there are on the veins black scales; sub-terminal and terminal area suffused with light drab with a sub-terminal black scaling on the veins; a hair-brown (xlvi) diffused terminal line interrupted on the veins; cilia of ground colour.

Under side of both wings pallid mouse-grey; fore wing densely suffused and irrorated with hair-brown; a dark suffusion on discocellulars and a postmedial diffused line from costa to vein 4; terminal lines of both wings fuscous-black; hind wing very little irrorated with hair-brown except on terminal area; a black suffusion on end of cell representing postmedial line; cilia as on upper side; on hind tibia some black scaling in the region of the median spurs.

Exp. 41 mm.

Hab. From S. Rhodesia (Sawmills), 1. 2. '18 (Janse). One specimen only.

Genus SCRANCIA.

(Pl. V, fig. 15; Pl. VIII, figs. 6-13.)

Scrancia Holl. *Psyche*, vi. p. 537 (1893).

Auriv. *Arkiv för Zool.* Bd. 2, No. 4, p. 7 (1904).

Type *modesta* Holland. Description from *stictica* Hmps. n.

♀. Proboscis well developed; palpi obliquely upturned, reaching well above vertex of head; first joint rather short, curved; second joint long, tapering towards end; third joint oblique, narrow and shorter than first joint, almost hidden in hairs; palpi covered in front mainly with hairs, at sides and above mainly with scales; frons produced towards proboscis, where it forms a raised toothed ledge with a tooth-like projection on each side (this is shown in the figure from the side and from above after the scales have been removed and the palpus has been pushed out of position); the whole is covered with scales so as to form a short tuft; eyes large, rounded, naked; antennae over half of costa, bipectinate for $\frac{2}{3}$ rd of their length; branches very short, two or three times shaft, ciliated terminally and on the anterior side; legs very long and slender, smoothly covered with scales and a few long hairs; fore tibia with a keel-shaped process, as long as half of tibia and provided on the edges with a row of comb-like spines; first joint of tarsus about as long as tibia; mid tibia with a pair of terminal long spurs, outer one about $\frac{2}{3}$ rd of inner spur; hind tibia with two pairs of long spurs, outer spur $\frac{2}{3}$ rd inner one and all spurs covered with scales and well pointed; all tarsal joints very long, especially the first joints, and on inner side covered with a number of spines.

Fore wing long and narrow; costa well arched; apex nearly acute; termen very oblique and rounded; inner margin nearly straight; 1*b* well forked at base; 2 from beyond $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from just above middle of discocellulars, which are erect; 6 from areole just beyond upper angle; areole broad, about two times as long and shaped like a parallelogram; 7 and stalk of 8, 9 from end of areole and very slightly stalked; 9 from

just beyond middle of free part of 8; 10 from middle of areole; 11 from upper median at about $\frac{2}{3}$ rd, somewhat curved towards vein 10 at areole, but not touching it; 12 parallel to costa.

Hind wing broad, nearly semicircular; costa somewhat excurved at middle; apex well rounded; termen very oblique and well rounded; tornus rounded; inner margin straight; 1*a* and 1*b* straight; 2 from lower median a little beyond middle; 3 and 4 from a point at lower angle; 5 from above middle of discocellulars and weak; discocellulars very weak, erect; 6 and 7 very shortly stalked and from upper angle; 8 parallel and approximated to upper median from base to beyond middle, then towards near apex; frenulum consisting of two bristles only. I have only seen ♀s, and at first thought the specimens to belong to the genus *Gargetta*, but the differences given by Holland between *Scrancia* and *Gargetta* are all found in my specimens. Besides some of them come from the same collection (E. L. Clark's) and the same locality as the type specimens of Hampson's *S. stictica*, and they all agree well with the description of this species. So I have no doubt, that my identification is correct, though the description given by Holland is very slender, even with the additional description of *Gargetta* given in Hampson's *Moths of India*. Sir George Hampson here divides the genus *Gargetta* into three sections, two of which have pectinated antennae, as given by Holland for *Scrancia*, and one of these sections has the name *Thacona*, treated as a synonym of *Gargetta*. As Hampson recognises the genus *Scrancia* in 1910 as a genus and not as a section or subgenus for the two South African species, there are no doubt other differences which I cannot make out from the descriptions. Five species are recorded from Africa, two of which occur in South Africa.

- 1 a. Head and thorax brown, mixed with grey; ground colour of fore wing light brownish-grey; discoidal striga black, defined by ground colour **stictica**
 b. Head black; thorax and ground colour of fore wing fuscous-brown; whitish discoidal striga defined by black and with ochreous beyond and before it **atrifrons**

SCRANCIA STICTICA.

(Pl. V, fig. 15; Pl. VIII, figs. 6-13.)

Scrancia stictica Hmps. *A.M.N.H.* 8. v. p. 480 (1910).

I have one fine ♀ from Umtali (S. Rhodesia), 9. 1. '18 (Janse), which is more grey than the Natal specimen; all Natal specimens I have seen are more brownish-grey; 3 specimens in my collection from Durban caught in March (E. L. Clark).

SCRANCIA ATRIFRONS.

Scrancia atrifrons Hmps. *A.M.N.H.* 8. v. p. 481 (1910).

I have one ♀ in my collection which I think belongs here, though it has white points on veins 1*b* to 6, which interrupt the otherwise continuous fine black terminal line, and though it has some whitish scaling before antemedial and beyond postmedial lines, all characters which are not mentioned in the description. It is also larger, 40 mm. instead of 30 mm. The other characters, however, correspond so well with the description that I prefer to keep it provisionally here, instead of describing it as new.

Caught at Salisbury on 27. 12. 17. (Janse).

Genus **TAENIOPTERYX** nov.

(Pl. VIII, figs. 14-19.)

Type *cinerea* spec. nov.

♂, ♀. Proboscis present; frons rounded; palpi obliquely upturned, moderate; second joint about two times first joint; third joint somewhat porrect, small, covered with appressed scales at sides and scales and hairs at the front; eyes large, rounded, naked; antennae less than half of costa, bipectinated in both sexes for nearly $\frac{2}{3}$ rd, pectination in ♂ about three times shaft, in ♀ two times shaft; first joint of shaft sub-globular and with a tuft of hairs; femora rather thinly covered with long hairs; tibiae with moderate hairs on outer side; fore tibia with a process shorter than the tibia; mid tibia with two, hind tibia with four spurs, which are moderate in length and sharply pointed, outer spur about $\frac{1}{4}$ th of inner spur and all covered with hair-like scales; tarsi covered with scales and spines. Fore wing narrow; costa well rounded; apex rounded; termen very oblique, somewhat rounded between veins 2 and 5; tornus well rounded; inner margin straight; 1*b* forked at base; 2 from lower median at beyond $\frac{1}{4}$ th; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from well above middle of discocellulars, which are erect and straight; 6, 7, 8, 9, 10 stalked and from upper angle; 6 from $\frac{1}{3}$ rd whole length of 8; 7 from $\frac{2}{3}$ rd of 8; 9 from $\frac{5}{6}$ th of 8; 10 from middle of origin of 6 and 7; 11 from upper median at $\frac{1}{4}$ th; 12 parallel to costa. Hind wing triangular; costa straight; apex rounded; termen very oblique, somewhat roundly lobed at 3 and 4 and incurved at vein 2; tornus well rounded; inner margin roundly lobed at 1*a*; 1*a* and 1*b* straight; 2 from $\frac{2}{3}$ rd lower median; 3 and 4 from lower angle and on a stalk of $\frac{1}{3}$ rd of 4; 5 absent; discocellulars faint, erect, curved; 6 and 7 from upper angle, stalked for over $\frac{1}{3}$ rd of 7; 8 from upper median at middle, then oblique to apex. Abdomen with a tuft of hair at base. This genus is close to *Stenostaura*, from which it differs in the position of veins 3 and 4 of fore wings, position and structure of the larger palpi and the presence of four spurs on the hind legs.

TAENIOPTERYX CINEREA spec. nov.

(Pl. XIV, fig. 9; Pl. VIII, figs. 14-19.)

♂, ♀. Palpi black, irrorated with neutral grey (lii) at the sides; head and tegulae of ♂ with cream-buff (xxx) and burnt sienna (ii) hairs and scales; remainder of thorax above and on under side, and legs neutral grey; tibiae and tarsi ringed with fuscous-black, tipped with white; fore wing at base and beyond medial line thickly irrorated with black and fuscous-black; remainder of fore wing between outer sub-basal and inner antemedial line, more or less irrorated with burnt sienna, so as to form a brownish band; sub-basal line double, black, diffused, curved and somewhat angled inwardly at lower median; antemedial line double, outer line most defined, curved and somewhat angled inwardly at upper median (in the ♀ the outer sub-basal and inner antemedial lines are brownish); medial line indistinct; a buff-yellow (iv) elongated stigma at discocellulars, centred with burnt sienna; in ♀ and in ♂ cotype the yellow is very faint; postmedial line double, faint and indistinct, often disappearing; a fine distinct black line, irrorated with brown in the ♀, from apex to tornus; some black scales on veins beyond the postmedial line; cilia deep neutral grey (liii), a little lighter at base. Hind wing white; some fuscous irroration along costa and a narrow terminal shading of fuscous; cilia white, with a fuscous line at middle.

Under side: fore wing uniform hair-brown (xlv); hind wing white with hair-brown irroration along costa and hair-brown terminal shading; cilia white.

Exp. ♂, 25 mm.; ♀, 29 mm.

Hab. ♂ type from New Hanover (Hardenberg, 8. '17); ♀ type from Durban (v. d. Merwe, 6. 3. '17); a ♂ cotype from Emangeni (S. Rhodesia), 18. 1. 18 (Janse); and another worn ♂ specimen from Valdesia (Zoutpansberg distr.) in Nov. 1915 (Mr T. Robson).

Genus *BREYERIA* nov.

(Pl. V, fig. 16; Pl. VIII, figs. 20-25.)

Type *dasychiroides* spec. nov.

♂. Proboscis absent; eyes moderate, elliptical; frons rounded, covered with hairs forming a ridge in the middle; palpi porrect, short, just reaching frons; first and second joints about of equal length; third joint a little over half of second, pear-shaped; all joints with rather long hairs in front, mixed with some scales; antennae about half length of costa, bipectinate till tip; branches long and spreading, 6 to 8 times shaft and with long cilia in front; tuft on first joint of shaft moderate; a slight tuft of scales on metathorax; a crest of long, spreading hairs on first segment of abdomen; femora thinly fringed with long hairs on inner side, otherwise covered with scales; femur of fore leg with some scales amongst the hairs; tibiae covered with scales on outer side; tarsi covered with appressed scales mixed with spines on inner side; fore tibia with a rather thin undulating process just reaching till a little beyond tibia and curved a little outwardly; mid tibia with two, hind tibia with four spurs, which are about as long as half of first tarsal joint; spurs covered with hairs, except near the tip, which is sharply pointed and almost straight, and with vestigial rows of teeth; outer spur about $\frac{1}{4}$ th shorter than inner. Fore wing elongate triangular; costa nearly straight, curved towards apex; apex slightly rounded, termen fairly erect, and curved from 2 to 6; tornus rounded; inner margin with a slight rounded lobe on basal half; 1*b* apparently without a fork; 2 from $\frac{3}{4}$ th of lower median; 3 from a little beyond middle of 2 to 4; 4 from lower angle; 5 rather weak and from above middle of discocellulars which are faint, erect and somewhat curved; 6 from $\frac{3}{4}$ th of areole; areole large, about four times as long as broad; 7, 8, 9 stalked and with vein 10 from end of areole; 7 from stalk at half the distance upper angle to apex; 8 from $\frac{3}{4}$ th that distance; 11 from upper median at $\frac{3}{4}$ th and somewhat curved; 12 parallel to costa. Hind wing triangular with rounded corners; costa somewhat arched; apex somewhat rounded; termen very oblique and curved from 2 to 7; tornus well rounded; inner margin well arched; 1*a* and 1*b* practically straight; 2 from lower median at $\frac{2}{3}$ rd; 3 from $\frac{3}{4}$ th distance 2 to 4; 4 from lower angle; 5 rather weak, from just above middle of discocellulars, which are faint and very oblique outwardly; 6 and 7 on a stalk of over $\frac{1}{3}$ rd; parallel to upper median to end, then much curved.

On account of the broader fore wing, longer areole and longer pectination, it is brought in the key into the *Zana-Chadisra* group, but I do not think that this is its natural position. I rather think it related to *Phycitimorpha* from which it differs in vein 10 of fore wing coming from the end of the areole, different shape of areole, the hind wing having 3 and 4 apart, discocellulars being much more oblique and vein 5 from well above middle; the fore wing is much shorter and broader, the process of the fore tibia is totally different, the palpi are much shorter and are porrect.

BREYERIA DASYCHIROIDES spec. nov.

(Pl. XIV, fig. 10; Pl. V, fig. 16; Pl. VIII, figs. 20-25.)

♂. Hairs on head and thorax above light mouse-grey (li), densely irrorated with black; palpi black, fringed with light mouse-grey hairs in front; shaft of antennae drab (xlv), branches fuscous (xlv); abdomen above vinaceous-buff (xl), on under side whitish; fore wing with ground colour white, densely irrorated with fuscous and fuscous-black (xlv), especially dense between sub-basal and antemedial lines, postmedial and sub-terminal lines; area before sub-basal line opaline-green (vii) with a few black scales here and there; sub-basal line black, faint from costa to lower median, then forming a long tooth outwardly below lower median, which is well defined and continued as a line to antemedial line, then erect to 1a and still distinct, then forming an indistinct tooth with rounded point above inner margin; a fuscous striga beyond sub-basal line from costa to upper median; antemedial line black, distinct, inwardly oblique from costa to upper median, then curved outwards and still more oblique to plical fold, where it is connected with the black streak from sub-basal line, then erect to inner margin; a fuscous diffused line before it from costa to lower median; medial line diffused, fuscous, nearly straight and inwardly oblique, preceded in the cell by some opaline-green scales; in the cell the medial line is narrow and black and followed by a pure white reniform, which is outwardly edged by a black inwardly curved striga; postmedial line double, inwardly oblique from costa to areole, then curved outwards till vein 3 and still oblique, then curved inwardly to vein 2, then erect to inner margin, meanwhile outwardly curved at plical fold and inwardly just above 1b; inner postmedial line black and well defined, outer line fuscous, sharply defined on inner side, but becoming diffused on outer side except from costa to areole, where it is well defined on both sides and fuscous-black; two oblique fuscous dashes from costa to vein 10, last dash followed by a larger and darker striga along stalk of 8, 9; a rather broad black line beginning on vein 7 at sub-terminal line, well curved obliquely to vein 3 at about middle of that vein, then curved inwards between veins 3 and 2, and diffused, then outwardly oblique and diffused to tornus; some opaline-green scaling before it between costa and vein 3, and with no irroration beyond it between vein 5 and tornus; a very fine sub-terminal black line, continuous from apex to vein 4, then becoming erect and zig-zagging on the veins; the irroration is almost absent between antemedial and medial lines from lower median to inner margin and between medial and postmedial lines over the whole breadth of wing; cilia of ground colour checkered with white on the veins. Hind wing pure white; cilia white. Under side: fore wing and hind wing pure white; fore wing densely suffused with fuscous along the costa and along terminal area from postmedial line near costa obliquely to tornus; a postmedial dark ill-defined line from costa to vein 2; cilia fuscous, at veins whitish; thorax and legs tilleul-buff (xl); three black lines on the tibia; first tarsal joints irrorated with black, other joints quite black at front.

Exp. 29 mm.

Hab. ♂ type, Nelspruit, 19. 10. '17 (Dr H. G. Breyer), in collection Transvaal Museum; ♂ cotypic collected at the same time and place in coll. Janse.

Genus STENOSTAURA.

(Pl. V, fig. 17; Pl. IX, figs. 1-4.)

Stenostaura Hmps. *Trans. Zool. Soc.* XIX. p. 119, Pl. IV, fig. 45 (1909).Type *impedita* Wlk.

♂, ♀. Proboscis absent; palpi minute, porrect, three jointed; all joints of equal length and covered with rather long spreading scales and hairs; eyes large, rounded, naked; antennae bipectinated for over half, in ♂ the outer branches are three times shaft, inner branches two times shaft; in ♀ outer branches two times, inner branches once; beyond the pectinations the shaft is serrate and ciliate in both sexes; pectinations ciliated; basal joint of shaft with a tuft of hairs and scales; fore tibia with a rather short pointed process; tibiae and femora of all legs covered with long hairs, tarsi with scales; mid and hind tibiae with terminal spurs only, inner spur shorter than outer spur. Fore wing narrow; costa nearly straight; apex rounded; termen obliquely rounded; tornus rounded; inner margin nearly straight; 1*b* indistinctly forked; 2 from beyond $\frac{2}{3}$ rd lower median; 3 and 4 from lower angle or shortly stalked; 5 from above middle of discocellulars, which are oblique; 6 stalked with 7, 8, 9, 10 for nearly $\frac{1}{3}$ rd of 6; 7 from stalk at beyond middle of 8; 9 from 8 at half the remainder part of 8; 10 from about half way 6 and 7; 11 from beyond $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing sub-triangular; costa nearly straight; apex well rounded; termen oblique, rounded and somewhat lobed between 2 and 5; tornus rounded; inner margin nearly straight; 1*a* and 1*b* nearly straight; 2 from $\frac{2}{3}$ rd lower median; 3 and 4 on a stalk of nearly half of 2; 5 almost absent (only somewhat visible in wing preparation); 6 and 7 on a stalk of over $\frac{1}{3}$ rd of 6; 8 anastomosing with upper median for nearly half of cell, then parallel to costa and somewhat curved towards apex.

The figure given by Sir George Hampson is not quite correct; in the fore wing, 3 and 4 are not shown from upper angle, 10 is given from before 7; pectinations of antennae are much too far towards the tip; in the description nothing is said about the faintness of vein 5, though it is shown in the figure.

Only one species is known in this genus.

STENOSTAURA IMPEDITA.

(Pl. V, fig. 17; Pl. IX, figs. 1-4.)

Cossus impeditus Wlk. *Cat.* XXXII. p. 583 (1865).*Stenostaura impedita* Hmps. *Trans. Zool. Soc.* XIX. p. 120, Pl. IV, fig. 45.

Why this species was placed by Walker in the *Cossidae* is a mystery to me; even without looking at the venation, it is clearly a Notodontid. The terminal line shown in Hampson's figure is wrong according to my specimens; it should be represented by black terminal broad spots on the veins only.

I have no doubt that my specimens belong here; the description of the genus and the figure of the species make this a certainty, though there is some variation in several of my specimens. In the ♀s the transverse lines are more diffused and one of my ♀s from Sawmills shows a very marked white clouding before the sub-terminal line. The hind wings of the ♀s are, as a rule, not pure white, but suffused with fuscous.

This species is recorded from the Cape and from Mokia (S. E. Ruwenzori). I have it from Pretoria (Jan., Oct., Nov.); Barberton (Jan., Dec.); Waterval onder (Nov.); Three Sisters (March); Warmberg (Nov., Dec.) (all in the Transvaal); and from Southern Rhodesia (Sawmills, in Febr.).

Genus EURYSTAURA nov.

(Pl. IX, figs. 5-9.)

Type *brunnea* spec. nov.

♂, ♀. Proboscis absent; palpi very short, hardly reaching frons, obliquely upturned in ♂, in ♀ nearly porrect; first joint somewhat curved and shorter than second joint, which is a little thicker at middle; third joint about half of second; palpi thickly covered with hairs and scales and with a tuft of hairs and scales on front of first joint; frons oblique and with a tuft of long hairs; eyes smooth, rather large, elliptical; antenna short, less than half of costa, curved downwards and with a tuft of hairs in front of first joint, bipectinated for $\frac{4}{5}$ th, when it becomes serrate; pecten in ♂ about 6 times shaft, in ♀ a little over once the shaft; thorax and abdomen without crests; femora with long hairs on inner side, tibiae of mid and hind legs with long hairs on outer side, tibia of fore leg with shorter hairs; fore tibia with an almost straight process, not quite reaching end of tibia; mid tibia with two, hind tibia with four spurs; longest spur nearly as long as first tarsal joint of hind leg; outer spurs a little longer than half of inner spur; all spurs covered with hairs except at the tip, which is sharply pointed and curved, but without any teeth; tarsi with hairs and scales but no spines. Fore wing moderately broad, a little less than half; costa slightly hollow at middle, well arched towards apex, which is somewhat rounded; termen oblique; tornus somewhat rounded; inner margin curved near base; 1*b* nearly straight, indistinctly forked at base; 2 from nearly $\frac{3}{4}$ th lower median; 3 from beyond $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are nearly erect at lower half and inwardly oblique at upper half; 6 very slightly stalked with stalk of 7, 8, 9, 10, stalk from upper angle; 7 from stalk beyond half the distance upper angle to apex; 9 from middle of free part of 8; 10 from middle of stalk 8, 9; 11 from upper median beyond $\frac{3}{4}$ th; 12 parallel to upper median, then straight to costa. Hind wing semi-circular; costa slightly bulged at middle; apex rounded; termen very oblique, slightly sinuate, especially between 1*b* and 2; tornus well rounded; inner margin rather short, straight; 1*a* and 1*b* straight; 2 from well beyond middle of lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 very weak, almost absent, and from a little above middle of discocellulars, which are erect and somewhat curved; 6 and 7 on a stalk of nearly half of 6; 8 from upper median a little beyond middle.

This genus differs from *Stenostaura* in the stouter build, in having four spurs on the hind legs, in veins 3 and 4 of fore wing being remote and 6 from stalk at base, while in the hind wing 3 and 4 are also remote and not stalked.

EURYSTAURA BRUNNEA spec. nov.

(Pl. XIV, fig. 11; Pl. IX, figs. 5-9.)

♂, ♀. Head, palpi at sides, patagia, thorax and abdomen above and on under side and ground colour of fore wing on upper side sayal-brown (xiv), irrorated with kaiser-brown (xiv); tegulae, part of fore wing except along costa as far as upper median, a streak from lower median and vein 2 till plical fold, and inner marginal area as far as 1*b* very thickly tinged with clove-brown (xl); sub-basal, antemedial and medial lines almost obsolete and only indicated by some light dashes of ground colour on costa and some dark scaling on veins; a rounded patch of ground colour just before discocellulars, traversed by a narrow fairly distinct part of the medial line, angled inwards at discal fold;

beyond this light patch a spot of whitish scales on lower and upper angles, surrounded by a black edging, so as to form the figure 8, lower spot larger than upper; postmedial line fairly distinct, but diffused, double and fuscous-black, angled inwardly at stalk 7, 8, 9, 10, then curved obliquely to plical fold, then more erect and angled inwardly above 1*b* and outwardly below 1*b*; the outer line is only distinct on the veins; some dashes of ground colour beyond it at costa; sub-terminal line rather diffuse, from near apex to tornus, somewhat incurved at vein 5 and plical fold, fuscous-black and followed by some light scaling, dentate outwardly on the veins; some terminal dark scales on the veins; cilia clove-brown with a few sayal-brown scales opposite the veins. Hind wing orange-cinnamon (xxix) with an indistinct medial line of lighter colour; cilia warm sepia (xxix) tipped with whitish.

Under side: of both wings orange-cinnamon; fore wing with a few light coloured dashes on the costa near apex; shaft of antennae kaiser-brown; branches black.

Exp. ♂, 34-30 mm.; ♀, 34 mm.

All specimens are from Durban, most of them bred by Mr G. F. Leigh. ♂ type, Febr. '16, ♀ type, March, '07, in collection Janse. Other cotypes of Febr. '16, 14-17. 11. '02 in collections of Transvaal and South African Museums, and in my own.

Genus NOTOXANTHA.

(Pl. V, fig. 18; Pl. IX, figs. 10-17.)

Notoxantha Hmps. *A.M.N.H.* 8. v. p. 484 (1910).

Type *sesamiodes*.

♂, ♀. Proboscis short, but functionary; palpi obliquely upturned, just reaching vertex of head; first joint curved; second joint cylindrical and as long as two times first joint; third joint very small, hidden in hairs; rather long hairs in front, mixed with scales at the sides and above; frons with a horseshoe-shaped prominence, of which the edges are raised, frons covered with dense hairs; eyes naked, large, round; antennae curved, short, about half of costa, bipectinated in ♂, ciliated in ♀; branches about three times shaft and gradually getting shorter towards tip; the branches at tips somewhat spathulated, especially the middle ones and all tips rounded; branches covered at tip and on all sides with some rather long hairs; a short tuft of hairs at front of first joint of shaft; fore tibia with a slightly curved process, a little longer than tibia and roundly pointed; mid tibia with two spurs, longest about as long as first tarsal joint, outer one about $\frac{1}{3}$ rd shorter; hind tibia with four spurs of same proportions; all spurs well covered with scales, except at the tips which are well pointed; all tarsi with a number of spines on inner side; all legs moderately covered with hairs. Fore wing rather broad; costa arched; apex acute; termen somewhat oblique; inner margin straight; 1*b* well forked at base; 2 from $\frac{3}{4}$ rd lower median; 3 from beyond middle of 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are rather erect below and rather oblique above 5; 6 from areole near upper angle; areole rather narrow and long; 7 and stalk of 8, 9, 10 from end of areole, but a little apart; 9 from $\frac{3}{4}$ th of 8; 10 from middle of 8; 11 from upper median at about $\frac{3}{4}$ th; 12 parallel to costa. Hind wing semi-circular; costa well arched; apex rounded; termen rounded, slightly lobed at vein 3; tornus rounded and somewhat lobed at 1*a*; 1*a* and 1*b* slightly curved; 2 from beyond middle of lower median; 3 from $\frac{3}{4}$ th 2 to 4; 4 from lower angle; 5 from just above middle of discocellulars, which are very oblique; 6 and 7

stalked for $\frac{1}{3}$ rd of 6; 7 curved upwards at base, then curved downwards and approximated to upper median, which is curved upwards at middle for more than middle third, then oblique to costa near apex; a bar between them at $\frac{1}{3}$ rd of vein 8.

Only one species is known in this genus.

My specimens show a little difference from what Hampson gives in the description; the palpi are there porrect; apex of fore wing produced, 3 and 4 from angle of cell, and in the hind wing 5 is said to be from middle of discocellulars. The first and last differences are of a rather undefined nature without a figure and the others may be variable. In my three specimens the palpi are somewhat upturned; as is suggested by the curve of the first joint and vein 3 is well remote from 4, the origin of vein 5 of hind wing is from just a little above middle. As all the other characters agree well, I have no doubt that my specimens have to come in this genus.

NOTOXANTHA SESAMIODES.

(Pl. V, fig. 18; Pl. IX, figs. 10-17.)

Notoxantha sesamiodes Hmps. *A.M.N.H.* 8. v. p. 485 (1910).

My specimens show slight differences: the dorsal surface of the abdomen of my ♀ is bright yellow, the thorax has a distinct brown patch, which is also present in the ♂s but more or less covered with the pinkish hairs of the patagia; in two of my specimens vein 7 is also streaked with yellowish-white. I have, however, no doubt that my identification is correct, as these differences are only additions and all other points agree in every respect, also the species is very distinctly marked.

My specimens are from Umtali, two ♂s, 3 and 11. 1. '18 (Janse); one ♀ from Salisbury, 11. 12. '16 (Father O'Neil).

Genus CRAMBOMETRA.

(Pl. V, fig. 19; Pl. IX, figs. 18-23.)

Crambometra Prout. *Nov. Zool.* xxii. p. 376 (1915).

Type *derelecta*.

Proboscis well developed; palpi obliquely upturned, reaching well above vertex of head; first joint a little shorter than second joint, curved; second joint straight, cylindrical; third joint sub-globular, as long as second joint is thick; second joint in front triangularly covered with scales and long hairs; first and third joints with hairs only; vertex smoothly covered with long scales, rounded; eyes very large, round, naked; antennae with the shaft till middle of costa, bipectinated with long irregularly curved branches as long as about 12 times thickness of shaft; branches ciliated in front and ending in rather long cilia; first joint of shaft scaled and without tuft; fore tibia with a thin curved process, a little longer than tibia; first tarsal joint nearly as long as tibia; mid tibia very slender and with two spurs; hind legs rather slender and with four spurs; longest spur about $\frac{1}{4}$ th of tibia, inner spur about $\frac{2}{3}$ rd of outer spur; the spurs have two terminal ridges of teeth, between which is a rounded groove; all legs and the spurs covered with appressed scales and short hairs; inner side of tarsi with spines as well. Fore wing rather long, sub-triangular; costa straight, well rounded towards apex; apex rounded; termen very obliquely curved; tornus somewhat rounded; inner margin nearly straight; 1b without a fork at base; 2 from beyond $\frac{2}{3}$ rd lower median; 3 from $\frac{1}{4}$ th 2 to 4; 4 from lower angle; 5 from just below middle of discocellulars, which are a little incurved at middle; 6

from upper angle; 7 and 8, 9 and 10 stalked; 8 and 9 anastomosing for some distance, beginning at $\frac{1}{3}$ rd origin of stalk 7, 8 to apex, in order to form a rather long areole; 7 from before end of areole; 10 from areole a little before 7; stalk of 9, 10 from upper median at about $\frac{5}{8}$ th; 11 from upper median at about $\frac{1}{3}$ rd, curved; 12 parallel to costa. Hind wing large, triangular; costa nearly straight; apex well rounded; termen very oblique and very much curved; tornus rounded, somewhat lobed at 1*b*; inner margin very much excurved at 1*a*, and somewhat incurved between 1*a* and 1*b*; 1*a* moderate, straight; 1*b* long, straight; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{4}{5}$ th 2 to 4; 4 from lower angle; 5 very faint, from middle of discocellulars which are also faint, slightly oblique outwardly; 6 from upper angle; 7 from upper median at $\frac{3}{8}$ th; 8 curved upwards from base, then downwards to about middle of upper median, which it nearly touches, then curved upwards to costa.

CRAMBOMETRA DERELICTA.

(Pl. XIV, fig. 12; Pl. V, fig. 19; Pl. IX, figs. 18-23.)

Crambometra derelicta Prout. *Nov. Zool.* xxii. p. 376 (1915).

♂. Head, palpi, shaft of antennae, thorax, abdomen, legs, and fore wing cream colour (xvi); some scales on the palpi, irroration of fore legs, branches of antennae and a patch on vertex of head fuscous (xlvi); fore wing sparsely irrorated with fuscous-black (xlvi) dots, more densely at medial and sub-medial folds so as to indicate two fascia; cilia white, with some fuscous-black scales at end of veins; hind wing white, without any markings except a few black scales here and there; cilia white with fuscous-black scales at end of veins, except at veins 1*a* and 5. Under side of fore wing whitish, suffused with avellaneous (xl) and sprinkled with fuscous dots on costal and terminal area; hind wing white, except costal area, which is suffused with avellaneous and sprinkled with fuscous spots; cilia of both wings white with black scales on end of veins.

Exp. 37 mm.

Tongaat (Natal), collected by B. C. Burnup; I have two ♂s, one in very bad condition.

Genus CAMPYLOCTYS nov.

(Pl. V, fig. 20; Pl. X, figs. 1-7.)

Type *gladstonei*.

♂. Proboscis well developed; palpi porrect, covered with hairs and some scales, evenly fringed with hairs and some scales mixed in front; first joint short; second slender, cylindrical, about two times first joint; third joint very small, less than half of first, pear-shaped; frons flat and tufted with rather long hairs; eyes very large and round, smooth; antennae about half of costa, bipectinated till tip; pectinations about 8 times shaft, very much curved towards tip, often irregularly arranged and with rather long cilia in front; first joint of shaft without a tuft; legs rather long and slender, covered with appressed scales and not fringed with hairs; fore tibia with a process nearly reaching end of tibia and curved towards the outside, fringed with long hairs on inner side; mid tibia with two spurs, hind tibia with four spurs; terminal spurs moderate, mid spurs about as long as first tarsal joint; spurs covered with scales and hairs and ending in an almost straight point which has two long rows of teeth; tarsal joints of fore legs very long, nearly two times tibia, first joint very long, joints in mid legs about as long as tibia, in hind legs shorter. Fore

wing rather broad; costa well arched; apex bluntly rounded; termen oblique, nearly straight, slightly incurved between veins 4 and 6; tornus well rounded; inner margin somewhat curved; *1b* straight, apparently forked at base; 2 from beyond $\frac{3}{4}$ rd lower median; 3 from near, 4 from lower angle; 5 from just above middle of discocellulars, which are almost straight, somewhat oblique outwards; 6 from upper angle; 7 and 8 stalked for nearly half length of 7 and from upper median well before angle; 9 and 10 stalked for about middle of 10, and from upper median at same distance as stalk of 7-8 to 6; 11 from upper median at $\frac{3}{4}$ rd and somewhat curved; 12 parallel to upper median and vein 11, ending at a little beyond middle of costa and thus rather short. Hind wing very broad; costa somewhat incurved; apex well rounded; termen very oblique, straight from 7 to a little beyond 4, then roundly lobed at 3, then straight to tornus, which is sharply rounded at *1b*, then roundly curved at *1a*, then straight; *1a* rather short, straight; *1b* long, somewhat curved; 2 from $\frac{3}{4}$ rd lower median; 3 from $\frac{4}{5}$ th distance 2 to 4; 4 from lower angle; 5 almost absent from middle of discocellulars, which are parallel to termen and well curved; 6 from lower angle; 7 from upper median and from well before the angle; 8 much curved to $\frac{1}{3}$ rd upper median and parallel to this vein for $\frac{3}{4}$ rd, then suddenly upcurved towards costa and curved downwards again towards near apex.

This genus comes near *Crambometra* from which it may have developed and from which it differs in the palpi being porrect, fore wing with termen less oblique, no areole being formed, 5 from above middle of discocellulars and process of fore leg being shorter. There is a remarkable resemblance in the antennae of those two genera, though in *Crambometra* the branches are a little longer. As the areole of the fore wing in *Crambometra* is formed by the anastomosing of the stalked 7, 8 and 9, 10, it is quite possible, that when more species are discovered, *Campyloctys* will prove to have sub-generic value only.

CAMPYLOCTYS GLADSTONEI spec. nov.

(Pl. XIV, fig. 13; Pl. V. fig. 20; Pl. X, figs. 1-7.)

♂. Head, palpi, thorax, legs and ground colour of fore wings pinkish-buff (xxix), irrorated more or less thickly with fuscous (xlv) and fore wing suffused with cinnamon-buff (xxix); fore wing with an indistinct antemedial line of fuscous-black (xlv) irroration, much curved outwards at middle, then angled inwards to lower median, then angled outwards to irroration on plical fold, angled inwards again to *1b* and outwardly oblique to inner margin; a fuscous-black dense irroration beyond antemedial line in cell and beyond cell as a streaky suffusion between the veins 4 to 10 which retain the ground colour; another suffused irroration between lower median and plical fold, getting fainter towards termen; an ill-defined fuscous-black spot on vein 6 at middle; a series of ill-defined sub-terminal fuscous-black spots on the veins, parallel to termen; better defined terminal fuscous-black spots between the veins from above plical fold to apex; a fuscous-black irroration on costa at base, along apex and on inner margin towards tornus; cilia cinnamon-buff with black points at end of veins and plical fold. Hind wing shiny transparent white, suffused with ivory yellow (xxx); cilia like colour of wing with fuscous-black points on the end of the veins. Under side of fore wing with ground colour as above, but evenly suffused and irrorated with avellaneous (xl) and fuscous, especially along costa; hind wing and cilia of both wings as on upper side. Abdomen above and on under side cartridge-buff (xxx); antennae with shaft sayal-brown (xxix); branches fuscous.

Exp. 41 mm.

Hab. Capetown, May 1912. Two ♂ specimens, one in Transvaal Museum and one in my own collection. Both specimens were collected amongst many other moths by Lord Gladstone, who kindly presented these to the Transvaal Museum.

The type specimen shows a peculiar abnormality in the left fore wing, where vein 6 sends a long branch or bar to the free part of vein 7 so as to connect these two veins and form a big areole between vein 6 and stalk of 7, 8; the other wing is normal, however.

Genus ZANA.

(Pl. V, figs. 21, 22; Pl. IX, figs. 24-29.)

Zana Wlk. *Cat.* VII. p. 1700 (1855).

Hmps. *Moths of India*, I. p. 144.

Eutimia Wllgrn. *Öfv. Vet. Akad. Förh.* XV. p. 211 (1859).

Type *lignosa* Wlk. Description made of *marpissa*.

♂, ♀. Proboscis rather short; palpi short, hardly reaching frons, porrect; first joint slightly longer than second joint; third joint almost globular and with a dent on upper tip; first and second joints with long hairs in front; eyes elliptical, longer than palpi, naked; antennae about half of costa, bipectinated, shaft gradually becoming dentate towards tip; branches about three times shaft, ciliated anteriorly and at ends; a short hair-tuft on first joint of shaft; fore tibia with long hair and a flat process, slightly longer than tibia in both sexes; the process is flat, somewhat curved and slightly overlapping the tibia on the inner side (though hollow, it does not appear to be keel-shaped as in *Antheua*); mid leg with two, hind leg with four moderate spurs, the points of which are curved inwards and each has two ridges with a slight depression between them; mid and hind femurs moderately covered with long hairs, tibiae with still less hairs; tarsi of all legs with spines on inner side and further covered with hairs. Fore wing broad, sub-triangular; costa nearly straight; outer margin somewhat oblique, well rounded and sinuate; apex, tornus and inner margin well rounded; 1a faint, as a branch of fork of 1b; lower median curved upwards; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, rather weak; discocellulars erect, somewhat rounded; 6 from upper angle or from well beyond it and then from areole (in some specimens of *Z. anodonta* 6 comes from middle, $\frac{2}{3}$ th, or even end of areole); areole rather long, nearly as long as half of 10; 7 from, from just before, or from slightly beyond end of areole; 8 and 9 on a stalk of half free part of 8 and from end of areole; 10 from before or from end of areole; 11 from upper median at $\frac{2}{3}$ rd; 12 parallel to costa. Hind wing semicircular; costa well arched; termen very oblique and well rounded, somewhat sinuate; apex rounded; tornus much rounded; outer margin rounded; 1a and 1b nearly straight; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 rather weak and from middle of discocellulars which are erect and somewhat curved; 6 and 7 on a stalk of $\frac{1}{4}$ th of 7; 8 parallel to upper median for nearly whole length and with an indication of a bar at $\frac{1}{3}$ rd (in *anodonta* no bar is visible). The mesothorax has an indication of a small crest and the abdomen is marked as a typical *Antheua*, in fact it is rather difficult to separate this genus from *Antheua*; in *Zana* too the venation of veins 6 to 10 is very variable. In *Zana* the outer margins are certainly more crenulate, but in *Antheua* they are not quite entire as stated by some writers; the palpi are shorter and distinctly porrect; the spurs have two ridges of teeth on the tip, while in *Antheua* no teeth can be seen in any of its species I placed there; the palpi have the first

joint longer than the second, which is not the case in *Antheua*, though in *encausta* they appear to be equal in length, and the peculiar dent on the third joint I have only observed in *marpissa* and *anodonta*. I therefore think that this genus is sufficiently distinct, though it has great similarity to *Antheua*, of which it may be a parallel development.

Only two species are found in this genus from South Africa, which may be separated as follows:

- 1 a. Fore wing with a black line on *rb*; oblique terminal grey area bordered by a dark ill-defined line, beginning at termen below vein 7; black scaling in cell; never a black dentate terminal line; female with the hind wing tinged with buffy-brown **marpissa**
- b. Fore wing without black line on *rb*; oblique terminal grey area bordered by a sharply defined black line, beginning at termen above vein 7; no black scaling in cell; usually a black terminal dentate line, sometimes only indicated at tornus; hind wing of female white. **anodonta**

ZANA MARPISSA.

(Pl. V, fig. 21; Pl. IX, figs. 24-29.)

Eutimia marpissa Wllgrn. *Öfv. Vet. Akad. Förh.* xv. p. 211 (1860).

Antheua spurcata Wlk. *Cat.* xxxi. p. 298 (1864).

Dist. *Ins. Transv.* iv. p. 92, Pl. VIII, fig. 10.

I have ♂s and ♀s of this species from Pretoria, Waterval onder, White River; Three Sisters; Barberton (Transvaal); New Hanover (Natal); Melmoth (Zululand); in Jan., March, Oct., Nov., Dec.

Larva feeds on grass (E. E. Platt).

ZANA ANODONTA.

(Pl. V, fig. 22.)

Zana anodonta Hmps. *A.M.N.H.* 8. v. p. 476 (1910).

I have ♂s and ♀s of this species from Waterval onder, White River, Karkloof, Eshowe; in Jan., Febr., March, Nov., Dec.

Genus RAMESA.

(Pl. V, fig. 23; Pl. X, figs. 8-11.)

Ramesa Wlk. *Cat.* v. p. 1016 (1855).

Hmps. *Moths of India*, i. p. 142.

Type *tosta* Wlk. Description from *macrodonta*.

♀. Head rather broad; proboscis present, rather short; palpi obliquely upturned, longer than length of eyes, covered with hair on under side, with scales at sides, three jointed; eyes moderately glabrous, rounded in front and less curved posteriorly; antennae nearly half of costa, serrate on inner side only for about half the length of shaft with long narrow teeth, on outer side with very short teeth; beyond middle of shaft the serrae become gradually shorter towards tip; outer serrae terminally with short hairs; base of shaft with a tuft of hair; legs covered with rather long hair; mid tibia with two rather long spurs, outer one longest; hind tibia with four spurs, inner ones about $\frac{2}{3}$ rd of outer spurs, median spurs longer than terminal spurs. Fore wing sub-triangular;

costa arched; termen oblique and well rounded; inner margin gently arched; apex sub-acute; tornus well rounded; 1*b* forked; 2 from near lower angle; 3 from middle distance 2 to 4; 4 from lower angle; 5 from middle of discocellulars which are erect; a forked veinlet in the cell; 6 from upper angle; areole present, long, over $\frac{2}{3}$ rd of vein 6 in length, narrow; 7 and stalk of 8, 9 from end of areole; 8 and 9 on a stalk of half of 8; 10 from areole at $\frac{1}{4}$ th the areole; 11 from upper median at beyond middle; 12 free. Hind wing triangular; costa slightly incurved at middle; termen roundly and slightly lobed between 2 and 6; inner margin curved; apex roundly produced; tornus well rounded; 2 from $\frac{2}{3}$ rd lower median; 3 and 4 from lower angle; 5 from middle of discocellulars; 6 and 7 stalked for about $\frac{1}{4}$ th of 6 and from upper angle; 8 curved upwards near base, then approximated to upper median at middle, then remote.

Species belonging to this genus are recorded from India and Africa; two species have so far been described from South Africa and may be separated as follows:

- 1 a. Areole moderate; vertex of head yellowish white; no antemedial line; medial line waved; a black discoidal bar; cilia whitish; 34 mm.

dasychira

- b. Areole long; vertex of head black-brown; antemedial line present, double, very much dentate below lower median; medial line ill defined, brown; discoidal bar brown, defined by black; cilia brown; 40-50 mm. **macrodonta**

RAMESA MACRODONTA.

(Pl. V, fig. 23; Pl. X, figs. 8-11.)

Ramesa macrodonta Hmps. *Trans. Zool. Soc.* xix. p. 119, Pl. IV, fig. 38 (1909).

Hab. Uganda; Sierra Leone; S. Rhodesia (Sebakwe).

Through the courtesy of Dr L. Péringuey, I have seen two ♀s of this species, both from Sebakwe, collected by D. Dods in Jan. 1902 and in 1901. One of these was kindly presented to my collection by the Director. So far only ♀s are known from South Africa and as the specimens were minus front legs, I could not study these. The antennae of the ♀s are not quite bipectinated, as Sir George Hampson states, but rather unipectinated, the outer branch being reduced to a mere lobe or tooth, as shown in the illustration. The hind wing also does not show a bar between vein 8 and upper median as given in *Moths of India*, vol. i. fig. 85, and veins 3 and 4 are from a point in my specimen, not remote. The figure given of this species is not very representative, unless the ♂ differs very much from the ♀, which is not stated in the description, however.

Spec. auct.: *Ramesa dasychira* Hmps. *A.M.N.H.* 6. v. p. 484 (1910).

Hab. Transvaal (White River).

Genus POLIENUS.

(Pl. X, figs. 12-17.)

Polienus Dist. *Ins. Transv.* iv. p. 93 (1899).

Type *modestus*.

♂, ♀. Proboscis absent; head rather small, bent downwards; eyes naked, rounded, rather large; palpi three jointed, somewhat upturned; first joint somewhat curved; second joint nearly two times first joint; third joint very small, pointed; all joints covered with long hairs; antennae of ♂ bipectinated

to tip; branches gradually getting shorter; pecten about four times shaft and with fine cilia exteriorly; shaft about half of costa, first joint sub-globular and with a tuft of hairs in front; in ♀ antennae half of costa, simple, ciliated; legs covered with hairs only (except in *fuscata*, where there are also some scales), on femurs very long; fore tibia with a broad, somewhat pointed process hidden in dense hairs; mid tibia with two rather long pointed spurs, which are covered with short hairs, outer spurs shorter than inner ones; hind tibia with 4 long pointed spurs covered with short hairs and of which the outer ones are the shortest; tarsi with hairs and scales; a pointed tuft of hairs on mesothorax. Fore wing rather broad; costa and inner margin nearly parallel; costa straight, rounded towards apex; apex sub-acute; outer margin somewhat oblique, rounded between veins 2 to 6; tornus rounded; inner margin straight; 1*b* faintly forked at base, curved at $\frac{1}{3}$ rd, then straight; 2 from beyond $\frac{3}{4}$ th lower median; 3 from middle of distance 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are erect, somewhat rounded above and below vein 5; 6 from just below upper angle; 7 from upper angle and connected by a short bar at $\frac{1}{3}$ th of 7 with stalk of 8, 9, 10 to form a moderate areole, about four times as long as broad; 8 stalked with 9 and 10; 9 from $\frac{2}{3}$ rd, 10 from $\frac{1}{3}$ rd the distance from end of areole to apex; 11 from $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing semi-circular; costa excurved at $\frac{1}{3}$ rd, somewhat incurved at $\frac{2}{3}$ rd; apex well rounded; outer margin very oblique, well curved, shortly lobed at 3; tornus well rounded; inner margin well curved; 1*a* nearly straight; 1*b* curved; 2 from well beyond middle of lower median; 3 from well beyond middle of distance 2 to 4; 4 from lower angle; 5 straight, rather faint and from middle of discocellulars, which are very oblique from 4 to 5, erect from 5 to upper angle; 6 and 7 stalked for nearly $\frac{1}{3}$ rd of 6 and from upper angle; upper median well curved at terminal half; 8 curved upwards at base and approximated to upper median at middle of cell and connected to it at beyond $\frac{1}{3}$ rd by a bar.

The description given by Distant is in several respects both vague and inaccurate, I think. The porrect position of the palpi is, I think, due to the downward position of the head, as the curve of the first joint indicates a more upturned position; the antennae of the male are *clearly* bipectinated, not *obscurely* as stated; no mention is made of an areole and the other characters given have little generic value; no spurs are mentioned, which are conspicuous; the figure is evidently that of a ♀.

Species in South Africa:

- | | | | |
|------|---|--------------------|---|
| 1 a. | Hind wing white in ♂ | modestus | |
| b. | Hind wing fuscous in ♂ (probably also in ♀) | | 2 |
| 2 a. | Fore wing with an oblique fascia from apex to near vein 5; a second fascia, nearly parallel to first, from vein 5 near outer margin to vein 3; a terminal series of black spots between veins 1 <i>b</i> -7 | fuscata | |
| b. | No oblique fascia on fore wing and no terminal black spots; a dark diffused fascia above lower median and vein 4; 6 slightly stalked with areole; areole longer than in <i>modestus</i> | nigrosparsa | |

POLIENUS MODESTUS.

(Pl. X, figs. 12-17.)

Polienus modestus Dist. *Ins. Transv.* iv. p. 94, fig. 10 (1899).

Most of my ♀s have white hind wings, but one specimen from Umtali has the terminal half tinted with hair-brown.

I have this species from Pretoria, Bultfontein, Rustenburg, Waterval onder, Barberton (Transvaal); Karkloof, Sarnia, Umkomaas (Natal); Umtali S. Rhodesia); in Jan., Febr., March, Nov.

POLIENUS FUSCATA spec. nov.

(Pl. XIV, fig. 15.)

♂. Thorax, base of abdomen, antennae, ground colour of wings on upper side cream colour (xvi); head covered with cream coloured, ochraceous-tawny (xv) and black hairs mixed; pectinations of antennae and palpi at sides cream-buff (xxx), the latter mixed with fuscous (xlvi) hairs and towards head with fuscous hairs only; sides of face, frons, hairs of femora and tibiae fuscous, very dense on front legs, less dense on the other legs; remainder of legs and hairs of abdomen on under side cream colour; hairs of thorax above mixed with some whitish and ochraceous-tawny hairs and with a distinct median patch on meso- and metathorax of ochraceous-tawny hair, forming a tuft in front; abdomen irrorated with hair-brown (xlvi) scales. Fore wing with costa thickly and median area moderately irrorated with black; a black point on lower median at sub-basal area and at $\frac{2}{3}$ rd; an oblique patch shaded with cinereous (lii) on inner margin from sub-basal to medial lines; this shading like the remainder of the fore wing is irrorated with black and fuscous scales; an indication of a medial and a postmedial blackish line; medial area except at costal and inner marginal area thickly irrorated with ochraceous-tawny, connected with two oblique fascia of the same colour and which go upwards towards termen; first fascia from vein 3 at $\frac{1}{3}$ rd to vein 4 at beyond $\frac{2}{3}$ rd; second fascia from above vein 5 to apex; both fascia are irrorated with black scales; a series of black, small, sub-terminal spots between the veins from above 1*b* to below vein 7; cilia of ground colour and with some black scales here and there and gradually getting lighter towards tip. Hind wing thickly irrorated with fuscous except at base, and near inner margin; cilia of ground colour except at base, which is fuscous.

Under side: fore wing with costa cream-buff, irrorated with black scales; ground colour of both wings and cilia cartridge-buff (xxx); both wings, except outer margins, irrorated with fuscous; cilia with a fine basal fuscous line.

Exp. 38 mm.

Hab. ♂ type from Umtali, 12. 1. '18; ♂ cotype, Umtali, 7. 1. '18 (Janse).

POLIENUS NIGROSPARSA spec. nov.

(Pl. XIV, fig. 14.)

♂. Vertex of head and shaft of antennae isabella colour (xxx), the former mixed with some black hairs, the latter ringed with black; thorax on upper side and base of fore wing below lower median whitish; a median honey-yellow (xxx) patch, beginning as a small tuft on meso- and metathorax; abdomen on upper side with long hair-brown (xlvi) hairs except last segments which become gradually cream coloured (xvi); palpi in front, thorax and abdomen on under side and hairs on legs cream coloured; hairs on prothorax and fore femurs and inner side of palpi hair-brown and fuscous; pectinations of antennae honey-yellow. Fore wing on upper side of cream colour (xvi) thinly speckled with black scales; veins and a triangular patch below lower median from base of vein 2 to near base of inner margin, cartridge-buff (xxx); some dark irroration, forming faint fasciae above lower median and vein 4, and from fork of 1*b* obliquely to inner marginal fold; cilia cartridge-buff with some fuscous and hair-brown scales at base.

Under side: ground colour of both wings cartridge-buff to white; fore wing with the costa cream coloured and with some black scales; a black fascia from upper median and vein 10 to vein 12, gradually becoming fuscous terminally;

remainder of fore wing, except the base and terminal area thickly irrorated with hair-brown; some black scales at terminal area and on cilia; hind wing thinly irrorated with hair-brown scales, most thickly at terminal half between veins 3 and 6; some black scales here and there and on the cilia.

Exp. 41 mm.

Hab. Victoria Falls (S. Rhodesia), 26. 1. '18 (Janse). Only one specimen.

This species has vein 6 of fore wing coming from the areole near base, but is otherwise typical.

Genus PRIONOCENTRUM nov.

(Pl. X, figs. 18-22; Pl. XI, fig. 1.)

Type *o'neili*.

♂, ♀. Proboscis absent; palpi upturned, reaching vertex of head, third joint obliquely correct; first joint short, curved; second joint over two times first joint; third joint shorter than first; all joints with short hairs in front; first and second joints covered with scales; eyes large, rounded, naked; frons with dense, rather long hairs; antennae of ♂ a little over half of costa, curved, bipectinated till near tip; branches about 8 times shaft and densely ciliated all round; first joint with a tuft of hairs in front; antennae of ♀ less than half of costa, bipectinated till near tip, branches on inner side as long as breadth of shaft, inner branches two times; fore tibia of ♂ with slightly curved process, which is a little longer than the tibia; femora and tibiae moderately fringed with long hairs; first tarsal joints fringed with long hairs, other joints with moderate hairs; mid tibia with two spurs, hind tibia with four spurs, inner spur a little shorter than outer; spurs provided on apical half with two rows of teeth, which come together at the point, which is nearly straight; between the rows is a rounded groove; spurs covered with some hairs and scales; tarsi with some spines on inner side. Fore wing broad triangular and somewhat produced at apex; costa slightly hollow, well curved towards apex; apex nearly acute; termen somewhat oblique and a little incurved below apex, then straight to vein 3, then well rounded at tornus; inner margin a little curved before middle; in ♀ the costa is slightly curved and the outer margin less incurved below apex; 1*b* very indistinctly forked at base; 2 from just beyond $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from just above middle of discocellulars which are oblique towards apex on upper part and has indications of veinlets in the cell; 6 from areole, which is long and narrow; 8, 9, 10 stalked and from end of areole; 9 from before $\frac{2}{3}$ rd; 10 from $\frac{1}{3}$ rd of 8 beyond end of areole to apex; 11 from $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing triangular; costa slightly incurved; apex well rounded; termen oblique and very much rounded between 2 and 7 and somewhat incurved between 1*b* and 2; tornus rounded; inner margin nearly straight, oblique; 1*a* very long, straight; 1*b* straight; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{1}{3}$ th 2 to 4; 4 from lower angle; 5 from just above middle of discocellulars, which are erect and evenly curved; 6 and 7 very slightly stalked and from upper angle; 8 upcurved near base, then downcurved and touching upper median before middle, but not anastomosing with it, then curved upwards and parallel to costa.

PRIONOCENTRUM O'NEILI.

(Pl. XIV, fig. 16; Pl. X, figs. 18-22; Pl. XI, fig. 1.)

♂. Ground colour of fore wing, irroration of hind wing, shaft and branches of antennae, fore legs in front, and patagia partly cinnamon-rufous (xiv); palpi in front cream colour (xvi) posteriorly fuscous (xlv); frons and vertex

of head warm buff (xv) well mixed before and between the antennae with flame scarlet (ii) hairs; patagia and tegulae of ground colour, but across the patagia a broad transverse line of flame scarlet and a patch of the same colour between the tegulae on meso- and metathorax; abdomen above of ground colour, except at base and apex, where cream coloured hairs predominate. Fore wing uniformly and finely dusted with cinnamon-rufous; an indistinct light coloured patch at base below lower median; an antemedial irregular pale orange-yellow (iii) line from below costa to $1b$, outwardly oblique from below costa to middle of cell, then angled inwardly to lower median where it is interrupted, to start again below lower median a little nearer to base than the beginning of the line and almost erect to $1b$, forming a tooth-like projection in middle; the antemedial line has a dark shading here and there on inner side; an indistinct light coloured line on discocellulars; a broad postmedial strigulated band, beginning at costa and erect till vein 4, then inwardly oblique to inner margin; the strigulae are pale orange-yellow, arranged in 5 parallel rows; curved between the veins and interrupted on the veins; on the outer side this band has a dark diffused line, dentated on the veins; some dark terminal shading from apex till along tornus; an ill-defined oblique fascia, slightly darker than ground colour, from apex to postmedial band at vein 4; cilia of ground colour. Hind wing with the ground colour pale orange-yellow, thinly irrorated at basal half and tinged at terminal half with cinnamon-rufous; cilia cinnamon-rufous at base, tipped with whitish.

Under side: thorax, fore legs on inner side, whole of mid and hind legs and ground colour of abdomen pure white; white hairs of abdomen mixed with pale orange-yellow hairs; fore wing with the ground colour cinnamon-rufous except along costa and at basal area, which are cream-buff (xxx), remainder of wing thickly irrorated with cream-buff; hind wing white, thickly irrorated at terminal half with cinnamon-rufous. *

♀. Ground colour somewhat lighter; patches on head, patagia and thorax less defined and ochraceous-buff (xv); antemedial area from costa to $1b$ deep chrome (iii) including the antemedial line, and well irrorated with cinnamon-rufous; postmedial band deep chrome; strigulae ill defined; area beyond postmedial band deep chrome, densely sprinkled with cinnamon-rufous; oblique apical fascia broader and darker; hind wing somewhat lighter; under side, hairs of legs, thorax and abdomen onion-skin pink (xxviii); ground colour of fore wing and hind wing pale yellow-orange (iii); fore wing irrorated, very densely at terminal half with testaceous (xxviii); hind wing rather thickly irrorated with testaceous on costal and terminal areas.

The intensity of coloration seems to vary considerably in the ♂; one of my ♂ specimens is very lightly coloured and has the antemedial markings diffused, and of a deep chrome colour, while the postmedial band is also deep chrome in ground colour and has the strigulae even more diffused than in the ♀; in another ♂ the antemedial markings are broader and lighter, while the strigulae of the postmedial band are very narrow and often wanting.

Exp. ♂ type, 59 mm.; ♀ type, 68 mm.; another worn ♀ is 75 mm.

Hab. Five ♂s and two ♀s all from S. Rhodesia, Umvuma and Salisbury, collected by Mrs Carnegie, Father O'Neil and myself in Nov., Dec., Jan., March.

Father O'Neil informs me, that the caterpillar is green and feeds on *Brachy-segia randii*.

Genus PYDNA.

(Pl. XI, figs. 2-8.)

Pydna Wlk. *Cat.* vii. p. 1753 (1855).Hmps. *Moths of India*, vol. I. p. 138 (1892).Type *testacea* Wlk. Description from *rubritincta*.

♂, ♀. Proboscis rudimentary; palpi upturned, reaching above vertex of head; first joint rather short, curved; second joint about two times first joint, nearly straight; third joint small, about half of first joint, somewhat pointed; all joints covered with hairs and scales in front, with hairs at sides and above; eyes large, suboval, smooth; antennae over half of costa, bipectinated in ♂, simple in ♀; pectination about three times shaft, gradually getting shorter towards tip, pecten ciliated at tip and on anterior side; first joint of shaft with hairs and scales in front, forming a short tuft; fore tibia with a process shorter than tibia, somewhat broad at middle and roundly pointed towards tip; femurs of fore leg moderately covered with hairs and scales; mid tibia with two spurs, longest about half the length of the tibia, outer spur about $\frac{1}{3}$ rd shorter; hind tibia with four long spurs, shortest about $\frac{1}{3}$ rd of tibia and on the outer side, inner spurs about half as long; all spurs acuminate terminally and covered with hairs and scales; femora and tibiae of all legs covered with hairs and scales; tarsi with scales and some spines on inner side. Fore wing rather broad; costa somewhat arched; apex rather acute; termen nearly erect, rounded from vein 4; tornus well rounded; inner margin nearly straight; 1*b* indistinctly forked at base; 2 from about $\frac{3}{4}$ th lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from middle of discocellulars, which are oblique outwardly; 6 from upper angle of cell; 7, 8, 9, 10 stalked¹, and from well before upper angle; 7 from about half of 10; stalk of 8, 9 from $\frac{3}{4}$ th of 10; 9 very short, from beyond free half of 8; 11 from about $\frac{3}{4}$ th upper median; 12 parallel to costa. Hind wing sub-triangular; costa curved; apex, outer margin, tornus and inner margin well rounded; 1*a* and 1*b* nearly straight; a small rounded lobe at 1*b*; 2 from $\frac{2}{3}$ rd lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 rather weak and from middle of discocellulars which are oblique outwardly; 6 and 7 stalked for over $\frac{1}{3}$ rd of 6 and from upper angle; 8 upcurved from base, then downcurved to upper median at beyond half, before half of upper median traces of an oblique bar, then curved upwards to costa and ending near apex.

The absence of the areole in *P. rubritincta* must be considered as an exception in this genus, caused by the two long sides of the areole having become anastomosed and this species should thus be regarded as the most highly developed species in the genus; it is further peculiar that vein 10 is given off beyond the areole, which is the case in the Indian and African species when the areole is short; in the Indian and African species that have the areole long vein 10 is said to come from the areole.

¹ In *P. rubrifascia* an areole is present, which is very long, over half of vein 10, and narrow; 6 comes from areole near base; 7 from just before end of areole; 8, 9, 10 stalked from end of areole; 9 from 8 at beyond half the distance end of areole to outer margin; 10 slightly stalked with 8, 9.

In *P. flavida*, which is unknown to me from specimens, the areole is said to be present also, but it is short and 10 comes from beyond the areole.

Only three species have been recorded from South Africa so far, which may be distinguished as follows:

- | | | | |
|------|--|--------------------|---|
| 1 a. | Fore wing with a rust-brown fascia below lower median reaching till near termen below vein 6; areole long and narrow, vein 6 from areole at base | rubrifascia | |
| b. | No rust-brown fascia in fore wing, areole short or absent | | 2 |
| 2 a. | Areole absent; 7, 8, 9, 10 stalked; fore wing yellowish-brown; hind wing irrorated with fuscous | rubritincta | |
| b. | Areole short; 10 from beyond areole; fore wing ochreous-white; hind wing white with some brown irroration in and just beyond the cell | flavida | |

PYDNA RUBRIFASCIA.

(Pl. XI, fig. 3.)

Pydna rubrifascia Hmpsn. *A.M.N.H.* 8. v. p. 486 (1910).

The branches of the antennae of this species are longer than in *rubritincta*, nearly four times.

I have seen one ♂ specimen in the collection of the South African Museum, collected at Salisbury by Dr M. Melle.

PYDNA RUBRITINCTA.

(Pl. XI, figs. 2, 4-8.)

Pydna rubritincta Hmpsn. *A.M.N.H.* 8. v. p. 485 (1910).

Of this species I have seen a specimen in Mr Clark's collection, which is a duplicate of the specimen sent to Sir George Hampson and identified by him as such. This specimen and my own agree very well with the description except that the postmedian spots go beyond vein 6, right up to the costa; my specimens are only 41 mm., not 44 mm. They come from Zululand (Eshowe, Nkweleni); Natal (Sarnia) and Transvaal (Barberton); all collected by myself in Dec. and Jan.

The markings of the ♂ are like those of the ♀; the sexes only differ in the antennae.

Spec. auct.: *Pydna flavida* Hmpsn. *A.M.N.H.* 8. v. p. 485 (1910).

I have not seen specimens of this species, which is recorded from Durban and Charlestown (Natal).

Genus POLELASSOTHYS nov.

(Pl. XII, figs. 2-8.)

Type *plumitarsus*.

♂, ♀. Proboscis very much reduced, almost absent; palpi porrect, short, hardly reaching frons, consisting of two joints only; first joint short, covered with rather long scales and hairs at sides and at front; second joint of about the same length, joined with a neck-like part to the first joint, sub-globular, ending in a sharp point and covered with long scales, mixed with hairs; eyes naked, large, round; frons flat, covered with scales and hairs; antennae of ♂ short, less than half of costa, basal 3rd curved downwards, apical third upwards; bipectinated from 3/4th, pecten about 6 times shaft; first joint of shaft with a tuft of hairs and scales in front; in ♀ the shaft is still shorter, pectinations till 3rd and about four times shaft; thorax covered with scales mainly, forming a

slight tuft on prothorax and a spreading crest on metathorax; abdomen covered with rather long hairs, last segment with a tuft of long hairs in the ♂; on first segment a spreading crest of scales; femora of all legs thinly covered on inner side with long hairs; all tibiae with long hairs and scales in front, forming tufts; fore tibia with a process a little longer than tibia, forming a fluted organ, narrow at upper $\frac{2}{3}$ rd, then broadening out towards tip, then acuminate; the edges of the process are covered with hairs and the whole is somewhat hidden in the hairs on inner side of the tibia; mid and hind tibiae with two spurs only; outer spur a little longer than the inner one, spurs very sharply pointed, provided with two ridges of teeth for nearly $\frac{2}{3}$ rd their whole length, the ridges converge towards the point and the spurs are for the greater part covered with rather long hairs; tarsi armed with spines and covered with tufts of hairs and scales at each joint, last joint with such a tuft at end between the claws. Fore wing broad, triangular; costa a little arched near base, then straight; apex rounded; termen somewhat oblique, curved, a little produced at veins 4 and 6; tornus very little rounded; inner margin somewhat arched; 1 *b* forked at base; 2 from $\frac{3}{4}$ th lower median; 3 from $\frac{2}{3}$ rd 2 to 4; 4 from lower angle; 5 from a little above middle of discocellulars, which are oblique outwardly and somewhat curved; 6 from upper angle; 7, 9, 10 stalked; 8 absent; 7 from 9 at before $\frac{2}{3}$ rd; 10 from 7, 9 at a little beyond $\frac{1}{3}$ rd; stalk from a little before upper angle; 11 from beyond $\frac{2}{3}$ rd upper median; 12 parallel to costa. Hind wing semicircular; costa somewhat hollowed out at middle; apex well rounded; termen very oblique, very much arched and somewhat incurved at vein 5; tornus well rounded; inner margin arched; 1 *a* rather long; 1 *b* straight; 2 from lower median before $\frac{2}{3}$ rd; 3 from $\frac{3}{4}$ th 2 to 4; 4 from lower angle; 5 rather weak, but present, from just above middle of discocellulars, which are very oblique outwardly, each half being somewhat curved; 6 and 7 on a stalk of over half and from upper angle; 8 free at base, then curved towards and anastomosing with the upper median till near upper angle, then curved upwards and parallel to costa for the greater part. This genus is more reduced than any other Notodontid known to me, especially the absence of the third joint of the palpus is interesting.

POLELASSOTHYS PLUMITARSUS spec. nov.

(Pl. XIV, fig. 17; Pl. XII, figs. 2-8.)

♂. Most hairs and scales of thorax, ground colour of both wings on upper and under side and hairs on legs pure white; scales on head and prothorax and the tuft cinnamon (xxix) mixed with white and black; metathoracic tuft of burnt sienna (ii) scales on outer side and metallic urania-blue (xxiv) scales mixed with white scales; abdomen white, mixed with hair-brown (xlvi) hairs; tuft on abdomen of orange-cinnamon and mikado-brown (xxix) scales; palpi white, tinged with orange-cinnamon towards tip and slightly irrorated with black; shaft of antennae white, irrorated with dark vinaceous-drab (xlv); branches Prout's brown; fore wing densely irrorated beyond sub-basal line, except before antemedial line, between lower median and 1 *b*, with very fine black points with which each scale is tipped, so as to produce a pale drab-grey (xlvi) colour when viewed without a magnifying glass; the lines are produced by the irroration being a little more dense and by being preceded or followed, or both, by the whitish ground colour; a basal line of fine black irroration in pure white field, almost straight; beyond it, to sub-basal line a narrow edging of such an irroration along the costa; sub-basal of black irroration preceded by almost pure white field and followed by pure white line, oblique from costa

to lower median, then forming a semicircular curve till $1b$, then erect to inner margin; beyond this curved part, well below lower median and well above $1b$, the antemedial area remains pure white, except for a few cinnamon-orange scales here and there; remainder of antemedial area irrorated with black and here and there at costal and inner marginal area with some orange-cinnamon scales, especially at $1b$; antemedial line indistinct, pinkish-cinnamon (xxix) and preceded by patches of black and orange-cinnamon scales mixed, one below costa, two in cell, a small one just below lower median, and a large semilunar patch obliquely above $1b$; the black scales are somewhat raised; median line erect to lower median, then incurved between lower median and inner margin, white, preceded and followed by a rather darker black irroration; beyond it in cell and below lower median, as far as postmedial line, some rather dense light buff (xv) scaling, covering in most part the black irroration; black and orange-cinnamon raised scales on discocellulars; postmedial like medial line, erect, straight from costa to vein 4, forming a tooth outwardly below 4, then curved inwardly below vein 3, then to inner margin long before tornus; most of the terminal area beyond this line, from below costa to vein 5 and narrowly below vein 5 as far as vein 3 the irroration is not black, but orange-cinnamon; some sub-terminal black scaling on veins 6, 7, 9, 10; a crescent mark of black scales on and between 4 and 5 and a few black scales on and between veins $1b$, 2, and just beyond the postmedial line; a dark terminal shading, caused by blacker irroration between the veins; cilia white at base, then with black irroration, and terminally with bunches of large orange-cinnamon scales on the veins, mixed with carob-brown (xiv) and light buff scales between the veins. Hind wing pure white; some fuscous (xlv) scaling on discocellulars, along costa and from costa a medial scaling of same colour as far as stalk 6, 7 and indistinctly beyond it to inner margin; a terminal fuscous line interrupted on the veins and some fuscous hairs at tornus; cilia white. Under side: ground colour of fore wing white, densely irrorated with fuscous, except at inner marginal area; costal edging as on upper side; a dense fuscous irroration on lower discocellular and a similar terminal fuscous shading between the veins; cilia as above, but no orange-cinnamon scales; hind wing pure white; a fuscous mark on upper $\frac{3}{4}$ rd of discocellulars; medial line very indistinct; terminal line only from veins 4 to 8, gradually becoming indistinct; cilia white with a few fuscous scales around the apex.

♀. Like ♂, but fore wing a little lighter in colour; area between postmedial and sub-terminal from costa to vein 3 paler yellow-orange (iii), less densely irrorated with orange-cinnamon; hind wing with nearly the whole area thinly irrorated with fuscous. Under side as in ♂, except for some white triangular patches between the veins and before the terminal shading from apex to vein 3.

Exp. ♂, 28 mm.; ♀, 35 mm.

Hab. ♂ type from Sawmills (S. Rhodesia), 1. 2. '18 (Janse); ♀ type from Waterberg, Dec. (Jutreszencka) and another from Waterberg distr. in Oct. 1911 (van Niekerk) in collection Transvaal Museum.

Genus ANAPHE.

(Pl. XI, figs. 9-16; Pl. XII, fig. 1.)

Anaphe Wlk. *Cat.* iv. p. 856 (1855).Wlsh. *Trans. Lin. Soc. Lond.* 2. II. p. 421 (1885).Dist. *Ins. Transv.* iv. p. 89.(Larva) Carl Fromholz. *Berl. entom. Zeits.* Bd. xvii. Heft 1. pp. 9-13 (1883).Butl. *A.M.N.H.* 8. xix. p. 462.*Arctiomorpha* Herr.-Schäff. *Aussereur. Schmett.* 1. p. 11 (1855).*Henosis* Wllgrn. *Kongl. Vet. Akad. Handl.* 2. v. No. 4, p. 51 (1865).Type *reticulata*.

♂, ♀. Proboscis absent; palpi obliquely porrect, just reaching frons, two jointed; second joint about two times first joint, slightly curved and gradually tapering to a point; rather densely clothed with moderate hairs in front; eyes rounded, naked, large; antennae about to middle of costa, bipectinated till tip; branches in ♂ about 5 times shaft, in ♀ about two times; branches ciliated anteriorly and ending in a point which is directed forwardly; first joint of shaft globular and with some moderate hairs in front; fore tibia with a short process which is spirally twisted outwardly and entirely hidden in long dense hairs; mid and hind tibiae with two spurs only, which are moderate in length, covered with hairs and ending in a slightly curved point which has two rows of teeth, as in *Zana*, etc.; mid and hind femora with long hairs on outer side; tibiae with long hairs on inner side; tarsi with appressed hairs and without spines. Fore wing sub-triangular; costa straight; apex rounded; termen oblique and evenly curved; tornus rounded; inner margin straight; 1 *b* straight, indistinctly forked at base; 2 from beyond $\frac{2}{3}$ rd of lower median; 3 from near lower angle, 4 from lower angle; 5 rather weak, from a little above middle of discocellulars, which are almost erect and nearly straight; 6 and stalk of 7, 8, 9, 10 from upper angle; 7 from stalk at $\frac{1}{3}$ rd full length of 7; 9 from 8 at $\frac{2}{3}$ rd origin of 8 to apex; 10 from $\frac{4}{5}$ of stalk 8, 9; 11 from near upper angle; 12 straight, parallel to costa. Hind wing triangular; costa almost straight; apex and tornus well rounded; termen very oblique and well rounded; inner margin slightly curved; 1 *a* straight; 1 *b* somewhat curved; 2 from beyond $\frac{2}{3}$ rd lower median; 3 from near lower angle; 4 from lower angle; 5 weak and from above middle of discocellulars which are outwardly oblique; 6 and 7 on a stalk of nearly $\frac{2}{3}$ rd full length of 7; and from upper angle; 8 curved upwards near base, then approximated to upper median, then oblique to apex, not connected to upper median with a bar; thorax clothed with long hair; abdomen of ♀ ending in a tuft of long loose hairs as found in *Euproctis*, etc.

This is a very peculiar genus, both for structure and for larval habits; the absence of the tongue, the two jointed palpi and the venation of the fore wing are unusual and the abdominal tuft in the ♀ is a character not found in any of the Notodontids dealt with before.

Walker and other writers have placed this genus under the *Lymantriadae*, which is decidedly wrong; on the other hand it shows family characters of the *Striphnopterygidae*, but as clearly shown by Prof. Aurivillius in *Bihang till Kongl. Svensk. Vet. Akad. Handl.* Bd. 27. Abt. iv. No. 7, pp. 3 and 4, the venation of the fore wing is mainly as in the *Notodontidae*, while in the former family vein 10 is either absent or comes at any rate from the stalk farther from the cell than vein 8, while in the Notodontids vein 8 is always farther from the cell than vein 10. It is remarkable, however, that the venation of the fore wing of

reticulata is far from constant. I have three normal specimens, six have vein 9 absent; two have vein 9 stalked with 10, this stalk being very short; two specimens have veins 8, 9, 10 from a point. In *panda* two specimens are normal and five have vein 9 absent. Evidently the presence of vein 10 and the well-developed frenulum on both sexes would be the only characters that keep this genus out of the *Striphnopterygidae*. The study of the caterpillar, especially that of the first instar, may throw some light on the true position of this genus. The caterpillars live in colonies, which again is not recorded from any other Notodontids, I think; they make large nests of silk, in which they live in the larval stages as well as during pupation. The nest may contain nearly 300 specimens and is usually heavily parasitized by flies or wasps. A Phycitid (*Zophodiopsis hyaenella*) is also supposed to invest the nest of *panda*.

Only two species are found so far in South Africa, and may be separated as follows:

- 1 a. A brown line on fore wing from near base along inner margin to medial line, and another from inner margin near base to median line just below lower median **reticulata**
- b. Fore wing with area from base to median line entirely white, except along costa, where there is a brown edging as in *reticulata* **panda**

ANAPHE RETICULATA.

(Pl. XI, figs. 9-16; Pl. XII, fig. 1.)

Anaphe reticulata Wlk. Cat. iv. p. 856 (1855).

Wlshm. Trans. Lin. Soc. Lond. 2. II. p. 422 (1885).

Dist. A.M.N.H. 6. XX. p. 204 (1897).

Dist. Ins. Transv. iv. p. 90, Pl. VIII, fig. 6 (1903).

Arctiomorpha euprepiaeformis Herr.-Schäff. Aussereur. Schmett. fig. 434 (1856).

This species also makes nests as recorded of *panda*. I found such a nest at Barberton and bred several specimens out of it, together with specimens of a Hymenopterous and a Dipterous parasite.

My other specimens are from S. Rhodesia (Salisbury, Umvuma); Transvaal (Three Sisters, Kourulene) and Natal (Umkomaas). The parasites emerged in Oct. and the moth came out in Dec.

The Rhodesia specimens have the dark stripes of the fore wing almost black and not brown as in the Transvaal and Natal specimens.

ANAPHE PANDA.

Anaphe panda Boisd. Voy. Delegorgue en Afr. Austr. tom. II. p. 600 (1847).

Wlshm. Trans. Lin. Soc. Lond. 2. II. p. 425, Pl. 44, 45, fig. 7 (1884).

(Larva) Carl Fromholz. Berl. entom. Zeits. Bd. XVII. Heft 1, pp. 9-13 (1883).

I never found the nest of this species, but caught my specimens by lamp-light at Three Sisters, Sarnia, Umkomaas, in Jan.

Genus EPANAPHE.

(Pl. XII, figs. 9-14.)

Epanaphe Auriv. *Arkiv för Zoologi*, Bd. 2. No. 4, p. 8 (1904).Type *moloneyi* Druce. Description from *clarilla*.

♂, ♀. Proboscis absent; palpi porrect, fringed with some long hairs in front and well beyond frons, two jointed; second joint nearly two times first joint; eyes round, moderate, naked; antennae of ♂ nearly till middle of costa, in ♀ shorter, bipectinated to apex, branches in ♂ three times shaft, in ♀ two times, all pointed at ends as in *Anaphe*, but not, or hardly ciliated; shaft well scaled above, first joint globular and with a short tuft of hairs; fore tibia with an inwardly curved process, not quite reaching end of tibia in ♂, in ♀ much shorter still; femurs of all legs with long hairs on upper and under side; tibia with long hairs, especially on inner side of fore leg and on outer side of hind leg; mid and hind tibiae with two moderate spurs each, which are as in *Anaphe*; tarsi of all legs fringed with very long spreading hairs on each joint. Fore wing triangular; costa gently arched; termen straight, oblique; inner margin curved at $\frac{1}{3}$ rd; apex and tornus rounded; 1 *b* indistinctly forked at base; 2 from well beyond middle of lower median; 3 from near lower angle; 4 from lower angle and well curved; 5 absent; discocellulars very oblique at lower $\frac{2}{3}$ rd, erect at upper third, where there is an indistinct veinlet in the cell; 6, 7, 8, 10 stalked and from upper angle; stalk of 6 very short; 7 from beyond $\frac{1}{3}$ rd upper angle to apex; 8 to apex; 9 absent; 10 from 8 at about $\frac{1}{3}$ rd upper angle to apex; 11 from near upper angle, parallel to stalk and vein 8; 12 parallel to costa. Hind wing triangular; costa gently arched at middle; termen curved from vein 2 to 6 and very oblique; inner margin well curved at 1 *a*; apex and tornus well rounded; 1 *a* and 1 *b* somewhat curved; 2 from beyond middle of lower median; 3 from $\frac{1}{4}$ th 2 to 4; 4 from lower angle; 5 absent; discocellulars at lower $\frac{2}{3}$ rd very oblique and straight; upper third erect; a trace of a veinlet in the cell; 6 and 7 on a stalk of half of 7 and from upper angle; 8 closely approximated to upper median and almost touching it at basal third. Head and thorax with rather long loose hairs; abdomen of ♀ with a broad hair-tuft as in *Anaphe*; in ♂ with a short tuft of spreading hairs.

I have no doubt that this genus is closely allied to *Anaphe* and most probably it is a development of that genus. The absence of vein 5 in both wings could be expected in such a development, as these veins are already very weak in *Anaphe*; the absence of vein 9 in the fore wing could also be anticipated judging by the behaviour of veins 9 and 10 in that genus. I think, however, that in *Epanaphe* this vein has disappeared through absorption and not through coalescence, as there is a rather sharp bend in vein 8 from where vein 9 may be supposed to have been. Only one species is found in South Africa, which according to Aurivillius may be a local race of *clara*, and which is at any rate closely allied to that species.

EPANAPHE CLARILLA.

(Pl. XII, figs. 9-14.)

Epanaphe clarilla Auriv. *Trans. Ent. Soc. Lond.* p. 699, Pl. XXXIII, fig. 10 (1904).

This species differs from *clara* in the cilia of both wings being pure white and the fore wing being white on the under side with a very narrow costal edging only. This species seems to be confined to Mashonaland, as I have not met with it elsewhere.

I have a ♂ and two ♀s from Salisbury, in Jan. and Dec.

GENERA AUCTORUM.

BRACHIONYCHA PUNCTULATA.

Brachionycha Hübn. *Verz.* p. 144 (1822).

B. punctulata Wlk. *Cat.* vii. p. 1750 (1856).

The species *nubeculosa* and *sphinx* (*cassinea*) for which this genus was created are distinctly **Noctuids** and are placed by all modern classifiers in this group, though Walker and Kirby place them in the **Notodontidae**. Meyrick gives this genus as a synonym of *Asteroscopus* Boisid.

Whether the species *punctulata* belongs to this genus or not is impossible for me to say, as the species is unrecognisable from the description and I have not seen a specimen which can be placed here with certainty.

CATOCHRIA CATOCALOIDES.

Catochria Herr.-Schäff. *Aussereur. Schmett.* i. p. 67 (1855).

C. catocaloides Herr.-Schäff. *l.c.* fig. 380 (1855).

Sir George Hampson informs me, that this species is unknown to him.

DATANA RUFICOLLIS.

Datana Wlk. *Cat.* v. p. 1060 (1855).

D. ruficollis Wlk. *Trans. Ent. Soc. Lond.* 3. i. p. 271 (1862).

Sir George Hampson has kindly informed me, that the genus *Datana* is purely an American genus and that through the kindness of Prof. Poulton, he has been able to see the type of *ruficollis*, which is in the Oxford Museum. He found that *D. ruficollis* Wlk. is the same as *D. ministra* Drury from North America and that the type specimen must have a wrong label attached.

SOMERA POLIOSTROTA.

Somera Wlk. *Cat.* iv. p. 882 (1855).

S. poliostrota Hmps. *A.M.N.H.* 8. vol. v. p. 463 (1910).

Sir George was kind enough to send me the following description of this genus, based on *S. poliostrota*: Palpi obliquely upturned to about middle of frons and fringed with long hairs in front, third joint as long as second and porrect, smooth; eyes smooth; antennae with long branches, about six times shaft, to apex; hind tibia with two pairs of spurs; thorax and abdomen without crests; fore wing rather narrow, the apex somewhat produced, no pecten on inner margin, vein 3 well before angle, 5 from middle of discocellulars, 6 from upper angle, 9 and 10 anastomosing with 8 to form a short areole of about $\frac{1}{6}$ th to apex; hind wing with 3 and 4 from angle, 5 from middle of discocellulars, 6 and 7 stalked.

GENERA OMITTED.

ATRASANA. The species *postica* placed in this genus before, is to be placed in *Hoplitis*.

INOUS is a Limacodid.

OSICA Wlk. is a genus from Queensland and N. Guinea. The species *verulama* B. Baker placed before in this genus is the same as *A. bicolor*.

EUTIMIA in which *marpissa* is placed, is *Zana spurcata*.

ALPHABETICAL INDEX

- agramma (Desmeocraera), 191
 agramma (Phyllaliodes), 192
 albicans (Pseudorethona), 169
 albicostata (Scalmicauda), 160
 albida (Antheua), 178
 AMYOPS, 206
 ANAPHE, 232
 anodonta (Zana), 222
 ANTHEUA, 175
 ARCTIOMORPHA, 232
 argentescens (Cerura), 171
 ATRASANA, 203
 atribasalis (Desmeocraera), 191
 atrifrons (Scrancia), 211
 atriguttata (Desmeocraera), 186
 aurifodinae (Antheua), 179

 basalis (Desmeocraera), 186
 basipuncta (Antheua), 178
 bicolor (Antheua), 180
 bifasciata (Cerura), 171
 BRACHIONYCHA, 235
 BREYERIA, 213
 brunnea (Eurystaura), 216

 calliope (Desmeocraera), 186
 CAMPYLOCTYS, 219
 canescens (Desmeocraera), 188
 CATOCHRIA, 235
 CERURA, 170
 CHADISRA, 200
 cinerea (Taeniopteryx), 212
 clarilla (Epanaphe), 234
 concolor (Hoplitis), 204
 congruata (Phycitimorpha), 209
 consanguinea (Antheua), 180
 CRAMBOMETRA, 218
 croceipuncta (Antheua), 178
 curvilinea (Chadistra), 201

 dasychira (Ramesa), 223
 dasychiroides (Breyeria), 214
 dasychiroides (Hoplitis), 204
 DATANA, 235
 derelicta (Crambometra), 219

 DESMEOCRAERA, 183
 dimorpha (Antheua), 180

 elegans (Leucophalera), 199
 encausta (Antheua), 179
 EPANAPHE, 234
ephippiata (*Sirenoptyga*), 177
 esmeralda (Cerura), 172
euprepiaeformis (*Anaphe*), 233
 EURYSTAURA, 216
 EUTIMIA, 221

 flavida (Pydna), 229
 fuscata (Polienus), 225

 GALONA, 205
 gigas (Amyops), 207
 gladstonei (Campyloctys), 220
 griseitincta (Scalmicauda), 160
 griseiviridis (Desmeocraera), 191

 HENOSIS, 232
 heterogyna (Scalmicauda), 159
 hierax (Pararethona), 174
 HOPLITIS, 203
 HYBOCAMPYA, 203
 HYPOPHIALA, 192

ianthina (*Desmeocraera*), 186
 ICHTHYURA, 161
 imitata (Phalera), 196
 impedita (Stenostaura), 215
 incana (Desmeocraera), 189
 interpellatrix (Desmeocraera), 185

 lentisignata (Ichthyura), 162
 LEUCOPHALERA, 199
 lignitea (Phalera), 197
 LOPHOPTERYX, 166
 lydenburgi (Phalera), 197

 macrodonta (Ramesa), 223
 marpissa (Zana), 222
 marshalli (Cerura), 173
 mediata (Stauropus), 195

melanogramma (Hypophiala), 193
MELEBAEAS, 206
 mixta (Antheua), 182
 modestus (Polienus), 224

NETRIA, 194
 nigrosparza (Polienus), 225
 noctuiformis (Pectinophora), 165
 NOTOXANTHA, 217

octoginta (Desmeocraera), 191
 o'neili (Prionocentrum), 226
 o'neili (Scalmicauda), 160
 ornata (Rigema), 198
OSICA, 180

panda (Anaphe), 233
 PARARETHONA, 173
 PECTINOPHORA, 164
 pergrisea (Desmeocraera), 191
 peringueyi (Antheua), 182
 persimilis (Chadisa), 202
 PHALERA, 195
 PHYCITIMORPHA, 208
 PHYLLALIODES, 192
 phyllocampa (Hoplitis), 204
 platti (Desmeocraera), 190
 plumitarsus (Polelassothys), 230
 POLELASSOTHYS, 229
 POLIENUS, 223
 postica (Hoplitis), 204
 PRIONOCENTRUM, 226
 PSEUDORETHONA, 168
 PYDNA, 228
pyrrotricha (Galona), 206

RAMESA, 222
 reticulata (Anaphe), 233
 RIGEMA, 197

roseotincta (Ichthyura), 163
 rosinaria (Chadisa), 202
 rubrifascia (Pydna), 229
 rubritincta (Pydna), 229

SCALMICAUDA, 158
 SCRANCIA, 210
 semiflava (Chadisa), 202
 serena (Galona), 206
 sesamiodes (Notoxantha), 218
 simplex (Antheua), 177
SIRENOPYGA, 175
 SOMERA, 235
 spiritalis (Cerura), 173
spurcata (Antheua), 222
 STAUROPUS, 194
 steniptera (Desmeocraera), 191
 STENOSTAURA, 215
 stictica (Scrancia), 211
 stigmatica (Phycitimorpha), 208
 swierstrae (Cerura), 173

TAENIOPTERYX, 212
 thalassina (Desmeocraera), 187
 tricolor (Antheua), 179
 tripuncta (Desmeocraera), 189

uncifera (Chadisa), 202
 uniformis (Lophopteryx), 167

varia (Antheua), 179
 varia (Desmeocraera), 187
 vernalis (Desmeocraera), 186
verulama (Osica), 180
 violacearia (Ichthyura), 163

woerdeni (Rigema), 198

ZANA, 221

PLATES I—XIV

ERRATA

Plate I add FIG. 6. *Ichthyura roseotincta* ♂.—Wings $\times 2$.

Plate V, Figs. 11-14, for *Amyopa* read *Amyops*

Plate V, Fig. 19 and Plate IX, Figs. 18-23, for *Burnuparia nigropulverata* read
Crambometra derelicta.

Plate V, Fig. 20, for *Campyloctis* read *Campyloctys*.

Plate I.

FIG. 1. *Scalmicauda a bicostata* ♂.—Wings $\times 1\frac{1}{2}$.

FIG. 2. *Sc. heterogyna* ♂.—Head and thorax $\times 2\frac{1}{2}$.

FIG. 3. *Sc. albicostata* ♂.—Head and tho ax $\times 2\frac{1}{2}$.

FIG. 4. *Sc. o'neili* ♂.—Head and thorax $\times 2\frac{1}{2}$.

FIG. 5. *Sc. o'neili*.—Portion of antenna $\times 5$.

FIG. 7. *Pectinophora noctuiformis* ♂ $\times 2$.

FIG. 8. *Lophopteryx uniformis* ♂ $\times 1\frac{1}{2}$.

FIG. 9. *Pseudorethona albicans* ♂ $\times 2$.

FIG. 10. *Cerura spiritalis* ♀ $\times 1\frac{1}{2}$.

FIGS. 11-16. *Pararethona hierax* ♂.—Fig. 11, wings $\times 2\frac{1}{2}$; fig. 12, tip of antenna $\times 6$; fig. 13, hind leg $\times 6$; fig. 14, mid spur of hind leg $\times 16$; fig. 15, palpus $\times 6$; fig. 16, fore leg $\times 6$.

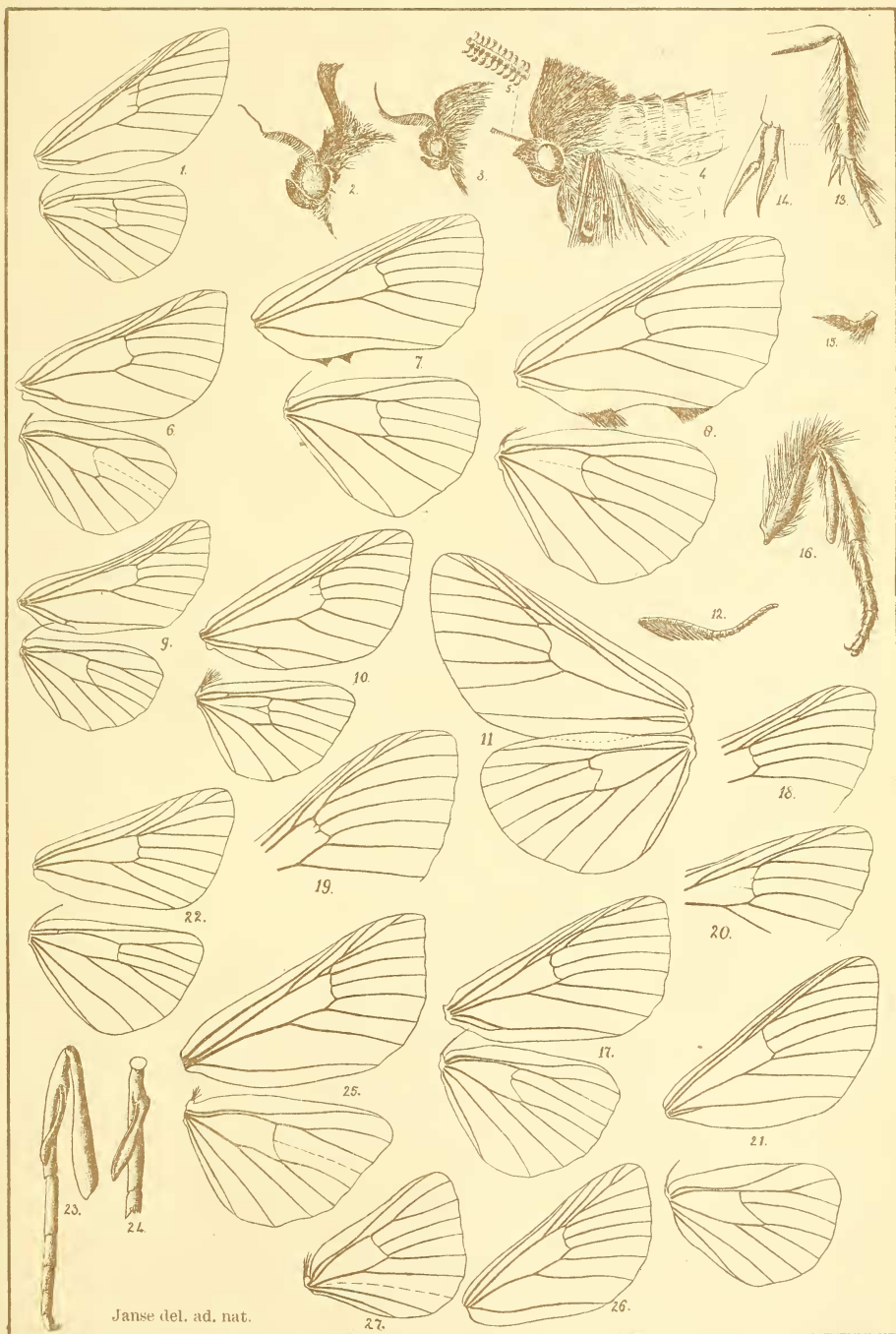
FIGS. 17-20. *Antheua*.—Fig. 17, *A. tricolor* ♂ $\times 1\frac{1}{2}$; fig. 18, *A. simplex* $\times 1\frac{1}{2}$; fig. 19, *A. croceipuncta* (not typical) $\times 1\frac{1}{2}$; fig. 20, *A. bicolor* (not typical) $\times 1\frac{1}{2}$.

FIG. 21. *Desmeocræra interpellatrix* ♂ $\times 1\frac{1}{2}$.

FIGS. 22-24. *Phyllaliodes agramma* ♂.—Fig. 22, wing $\times 1\frac{1}{2}$; fig. 23, denuded fore legs (outside view) $\times 6$; fig. 24, same turned one quarter $\times 6$.

FIG. 25. *Antheua dimorpha* ♀, wings $\times 2$.

FIGS. 26-27. *Hypophiala melanogramma* ♀.—Fig. 26, fore wing $\times 1\frac{1}{2}$; fig. 27, hind wing $\times 1\frac{1}{2}$.



Janse del. ad. nat.

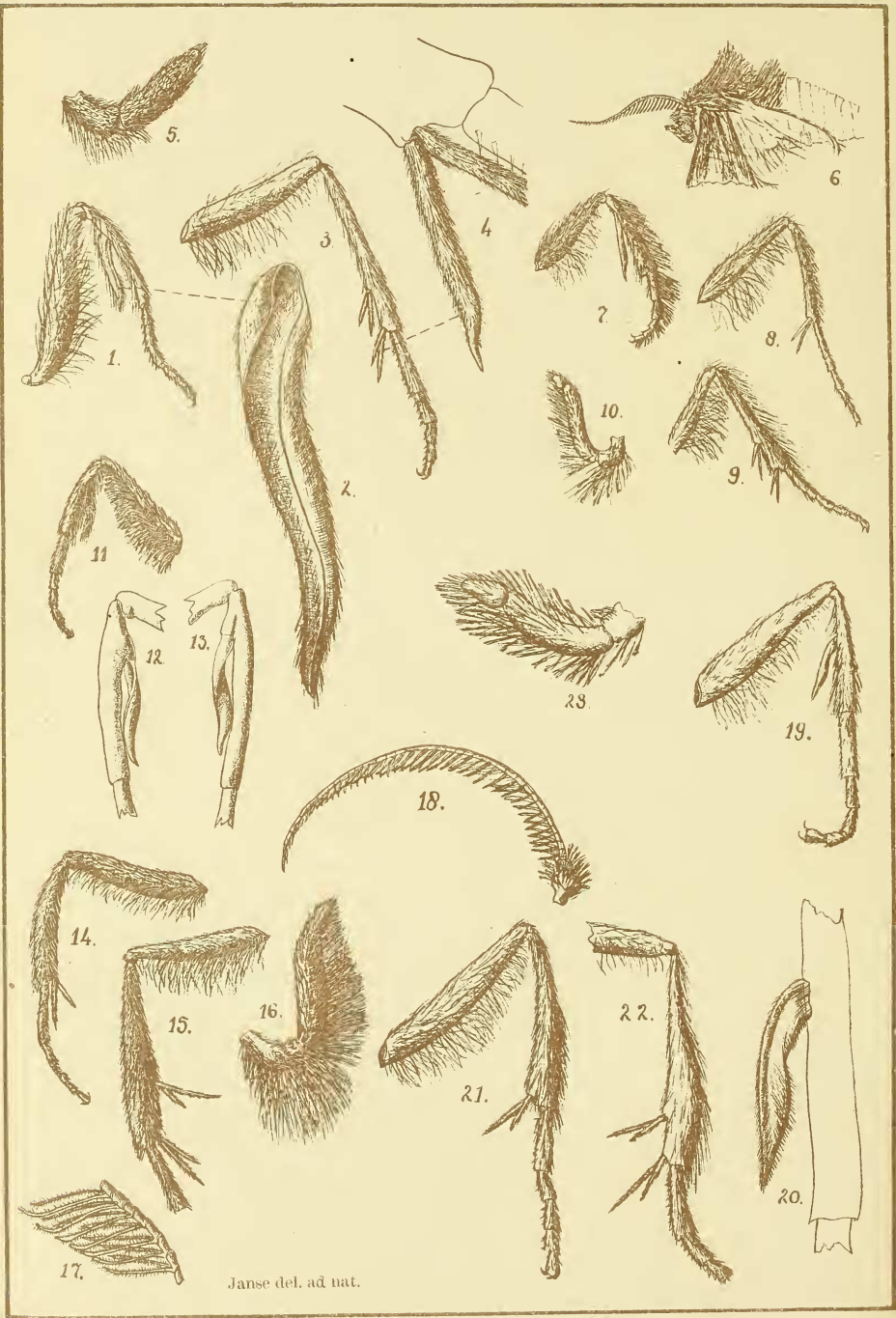


Plate II.

FIGS. 1-5. *Scalonicauda albicostata* ♂.—Fig. 1, fore leg $\times 5$; fig. 2, process of fore leg (inside view) $\times 36$; fig. 3, hind leg $\times 5$; fig. 4, end spur of hind leg $\times 36$; fig. 5, palpus $\times 12$.

FIGS. 6-10. *Ichthyura roseotincta* ♂.—Fig. 6, side view of head and thorax $\times 3$; fig. 7, fore leg $\times 5$; fig. 8, mid leg $\times 5$; fig. 9, hind leg $\times 5$; fig. 10, palpus $\times 10$.

FIGS. 11-17. *Pectinophora noctuiformis* ♂.—Fig. 11, fore leg $\times 5$; fig. 12, fore leg denuded (inside view) $\times 11$; fig. 13, fore leg denuded (outside view) $\times 11$; fig. 14, mid leg $\times 5$; fig. 15, hind leg $\times 5$; fig. 16, palpus $\times 11$; fig. 17, portion of antenna $\times 11$.

FIGS. 18-23. *Lophopteryx uniformis* ♂.—Fig. 18, antenna $\times 5$; fig. 19, fore leg $\times 5$; fig. 20, process of fore leg $\times 15$; fig. 21, mid leg $\times 6$; fig. 22, hind leg $\times 5$; fig. 23, palpus $\times 15$.

Plate III.

FIGS. 1-6. *Pseudorethona albicans* ♂.—Fig. 1, fore leg $\times 5$; fig. 2, fore tibia denuded $\times 11$; fig. 3, mid leg $\times 5$; fig. 4, hind leg $\times 5$; fig. 5, spurs of hind tibia $\times 18$; fig. 6, palpus $\times 5$.

FIGS. 7-9. *Cerura spiritalis* ♀.—Fig. 7, palpus $\times 11$; fig. 8, basal part of antenna $\times 11$; fig. 9, portion of shaft of antenna with a branch $\times 35$.

FIGS. 10-15. *Antheua tricolor* ♂.—Fig. 10, fore leg $\times 5$; fig. 11, process of fore leg $\times 12$; fig. 12, mid leg $\times 11$; fig. 13, hind leg $\times 5$; fig. 14, spur of hind leg $\times 12$; fig. 15, palpus $\times 12$.

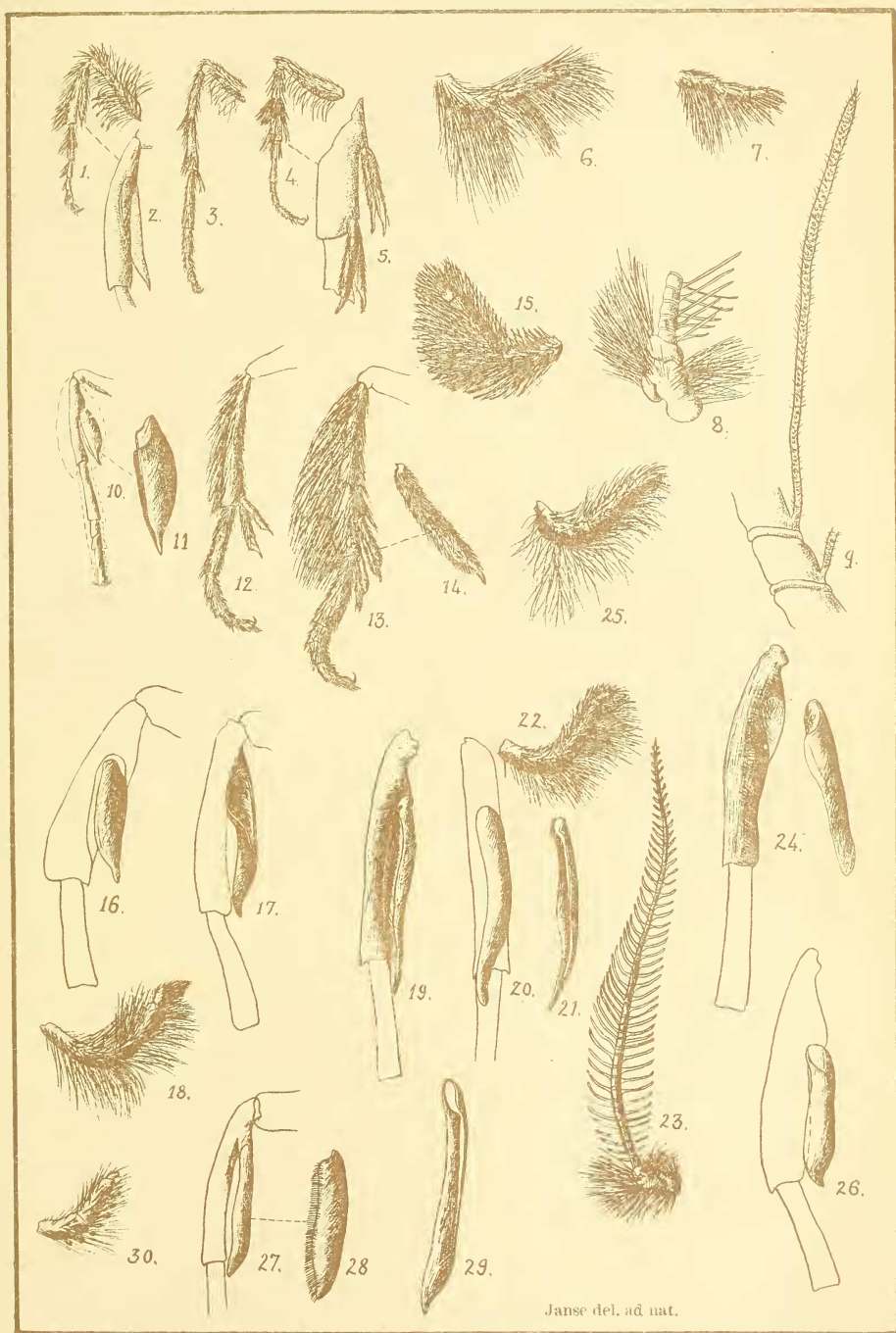
FIGS. 16-18. *A. encausta* ♂.—Fig. 16, fore tibia $\times 5$; fig. 17, fore tibia with process turned to show inner side $\times 5$; fig. 18, palpus $\times 11$.

FIGS. 19-23. *A. croceipuncta* ♂.—Fig. 19, fore tibia $\times 5$; fig. 20, fore tibia turned one quarter $\times 5$; fig. 21, process of fore tibia seen from inner side $\times 5$; fig. 22, palpus $\times 11$; fig. 23, antenna $\times 5$.

FIGS. 24-25. *A. bicolor* ♂.—Fig. 24, fore tibia with removed process $\times 11$; fig. 25, palpus $\times 11$.

FIG. 26. Fore tibia of *A. simplex* ♂ $\times 11$.

FIGS. 27-30. *A. aurifodinae*.—Fig. 27, fore tibia $\times 11$; fig. 28, process of fore tibia turned one quarter $\times 11$; fig. 29, same process turned half-way $\times 18$; fig. 30, palpus $\times 11$.



Janse del. ad nat.



Plate IV.

FIGS. 1-3. *Desmeocræra interpellatrix* ♂.—Fig. 1, fore tibia $\times 11$; fig. 2, hind tibia $\times 11$; fig. 3, palpus $\times 11$.

FIGS. 4-5. *D. calliope*.—Fig. 4, hind tibia $\times 11$; fig. 5, palpus $\times 11$.

FIGS. 6-9.—Palpi $\times 11$: fig. 6 of *D. vernalis*; fig. 7 of *D. varia*; fig. 8 of *D. atriguttata*; fig. 9 of *D. thalassina*.

FIGS. 10-11. Antennæ $\times 5$: fig. 10 of *D. interpellatrix*; fig. 11 of *D. steniptera*.

FIG. 12. Fore tibia of *D. steniptera* $\times 11$; fig. 13, palpus of same $\times 11$.

FIGS. 14-17. *Antheua dimorpha* ♀.—Fig. 14, fore leg $\times 5$; fig. 15, mid leg $\times 5$; fig. 16, hind leg $\times 5$; fig. 17, palpus $\times 11$.

FIGS. 18-19. *Phyllaliodes agramma* ♀.—Fig. 18, hind leg $\times 5$; fig. 19, palpus $\times 11$.

FIGS. 20-24. *Hypophiala melanogramma* ♀.—Fig. 20, fore tibia with process from the inner side $\times 11$; fig. 21, same turned one quarter $\times 11$; fig. 22, fore leg $\times 5$; fig. 23, hind leg $\times 5$; fig. 24, palpus $\times 11$.

Plate V.

FIGS. 1-3. *Cerura spiritalis* ♀.—Fig. 1, fore leg $\times 5$; fig. 2, hind leg $\times 5$; fig. 3, spurs of hind leg $\times 17$.

FIG. 4. *Stauropus mediata* ♀, wings $\times 2$.

FIG. 5. *Phalera imitata* ♂, wings $\times 1\frac{1}{2}$.

FIG. 6. *Ph. lydenburgi* ♂, tip of fore wing $\times 1\frac{1}{2}$.

FIG. 7. *Rigema ornata* ♀, wings $\times 1\frac{1}{2}$.

FIG. 8. *Leucophalera elegans* ♂, wings $\times 1$.

FIG. 9. *Chadisra curtilinea* ♀, wings $\times 2$.

FIG. 10. *Galona serena* ♂, wings $\times 1\frac{1}{2}$.

FIGS. 11-14. *Amyopa gigas* ♂.—Fig. 11, wings $\times 1$; fig. 12, fore leg $\times 2\frac{1}{2}$; fig. 13, mid leg $\times 2\frac{1}{2}$; fig. 14, hind leg $\times 2\frac{1}{2}$.

FIG. 15. *Scrancia stictica* ♀, wings $\times 1\frac{1}{2}$.

FIG. 16. *Breyeria dasychiroides* ♂, wings $\times 2\frac{1}{2}$.

FIG. 17. *Stenostaura impedita* ♀, wings $\times 2\frac{1}{2}$.

FIG. 18. *Notocantha sesamiodes* ♂, wings $\times 2$.

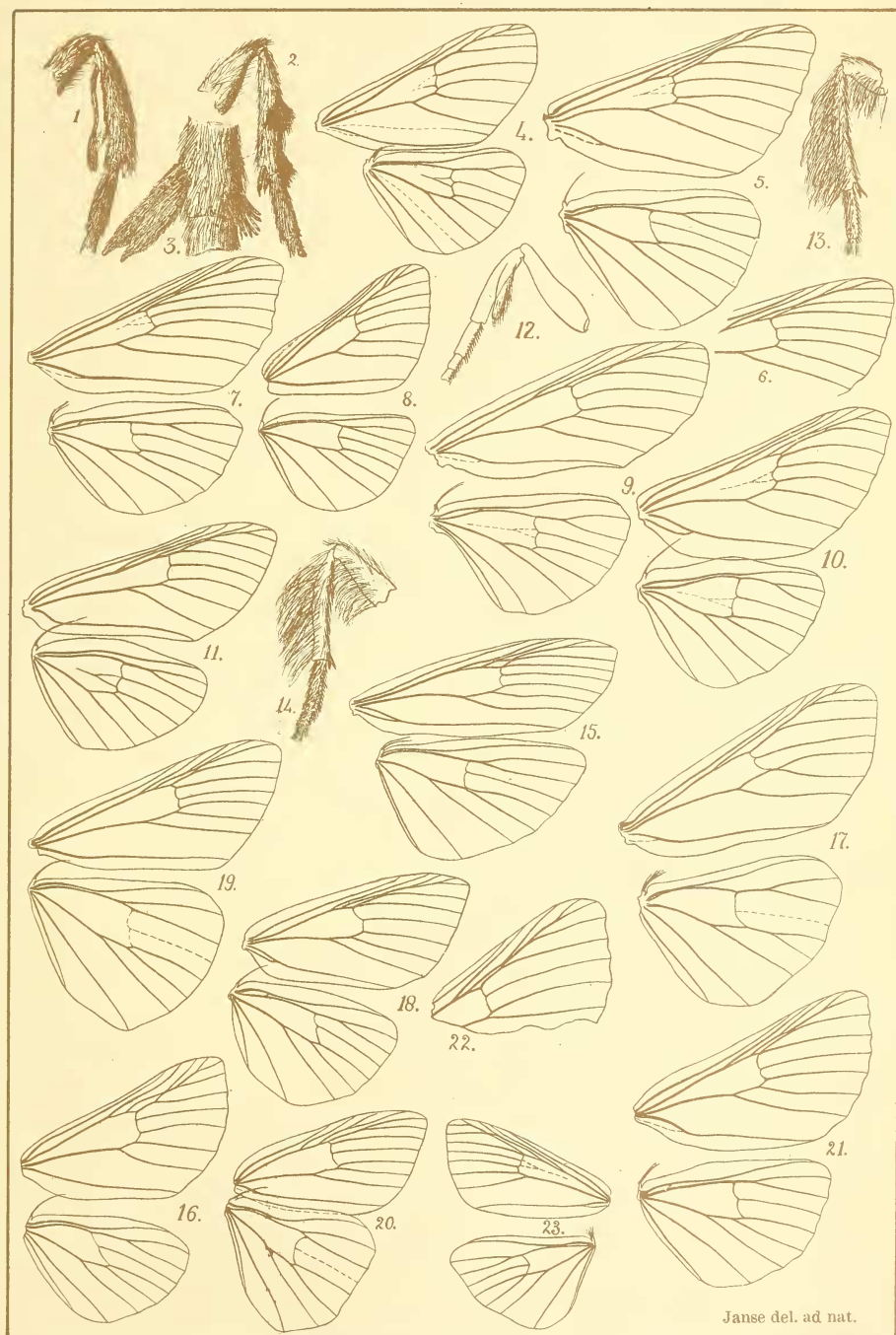
FIG. 19. *Burnuparia nigropulverata* ♂, wings $\times 2$.

FIG. 20. *Campyloctis gladstonei* ♂, wings $\times 2$.

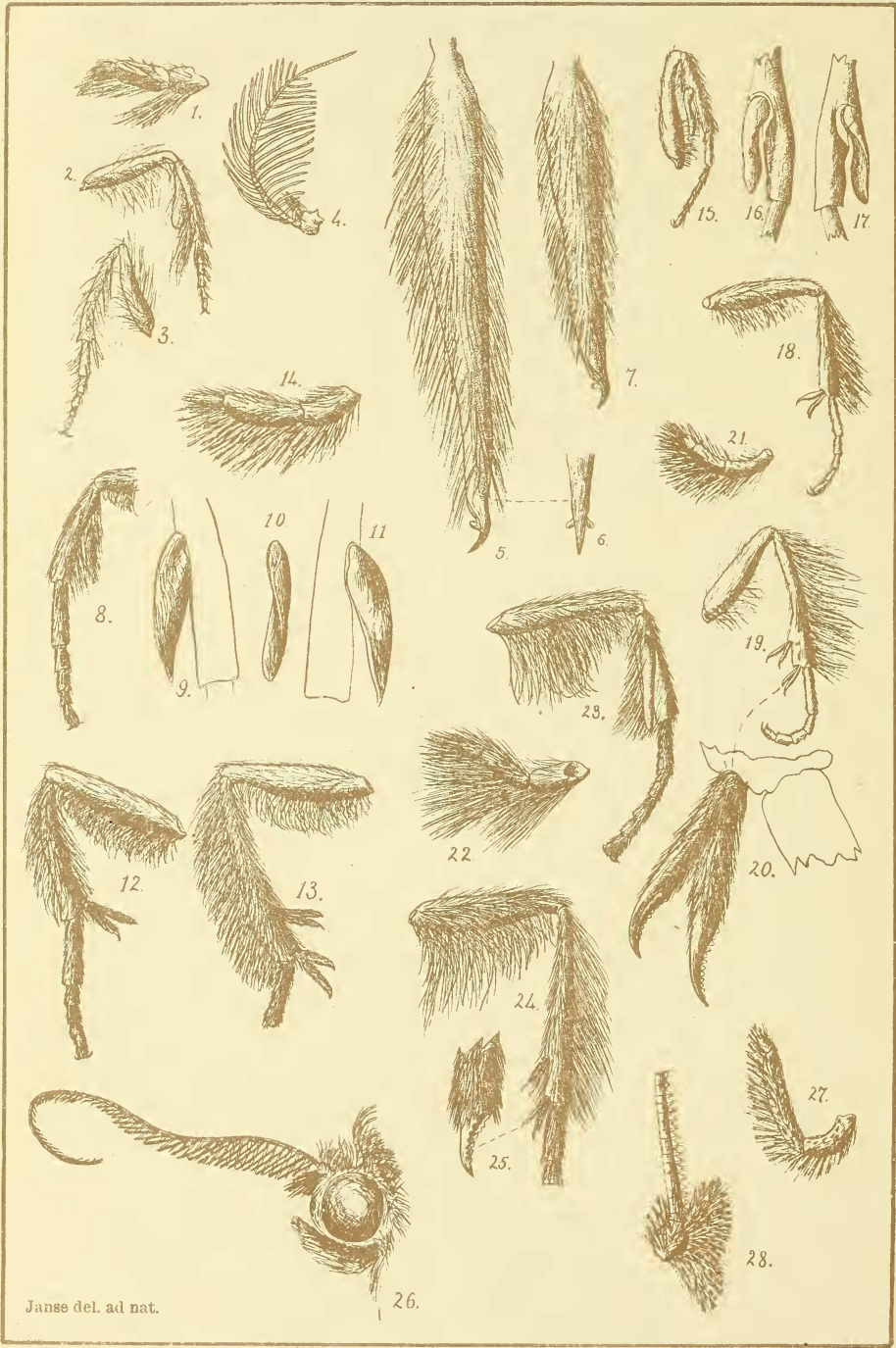
FIG. 21. *Zana marpissa* ♀, wings $\times 2$.

FIG. 22. *Zana anodonta* ♂, apical part of fore wing $\times 2\frac{1}{2}$.

FIG. 23. *Ramesa macrodonta* ♀, $\times 1$.



Janse del. ad nat.



Janse del. ad nat.

Plate VI.

FIGS. 1-7. *Stauropus mediata* ♂.—Fig. 1, palpus $\times 11$; fig. 2, fore leg $\times 5$; fig. 3, hind leg $\times 5$; fig. 4, antenna $\times 5$; fig. 5, inner spur of hind tibia $\times 65$ (side view); fig. 6, apical part of same spur seen from the top $\times 65$; fig. 7, outer spur of hind leg (side view) $\times 65$.

FIGS. 8-14. *Phalera imitata* ♂.—Fig. 8, fore leg $\times 5$; fig. 9, process of fore tibia $\times 11$ (inner side); fig. 10, same turned one quarter; fig. 11, same seen from the outside, all $\times 11$; fig. 12, mid leg $\times 5$; fig. 13, hind leg $\times 5$; fig. 14, palpus $\times 11$.

FIGS. 15-21. *Rigema ornata* ♂.—Fig. 15, fore leg $\times 5$; fig. 16, process of fore tibia (from outside) $\times 11$; fig. 17, same seen from inner side; fig. 18, mid leg $\times 5$; fig. 19, hind leg $\times 5$; fig. 20, end spur of hind leg $\times 34$; fig. 21, palpus $\times 11$.

FIGS. 22-25. *Leucophalera elegans* ♂.—Fig. 22, palpus $\times 11$; fig. 23, fore leg $\times 5$; fig. 24, hind leg $\times 5$; fig. 25, terminal part of spur from hind leg $\times 34$.

FIGS. 26-28. *Chadisra*.—Fig. 26, head of *Ch. rosinaria* ♂ $\times 5$; fig. 29, palpus of *Ch. curvilinea* ♂ $\times 11$; fig. 28, lower portion of antenna of same $\times 11$.

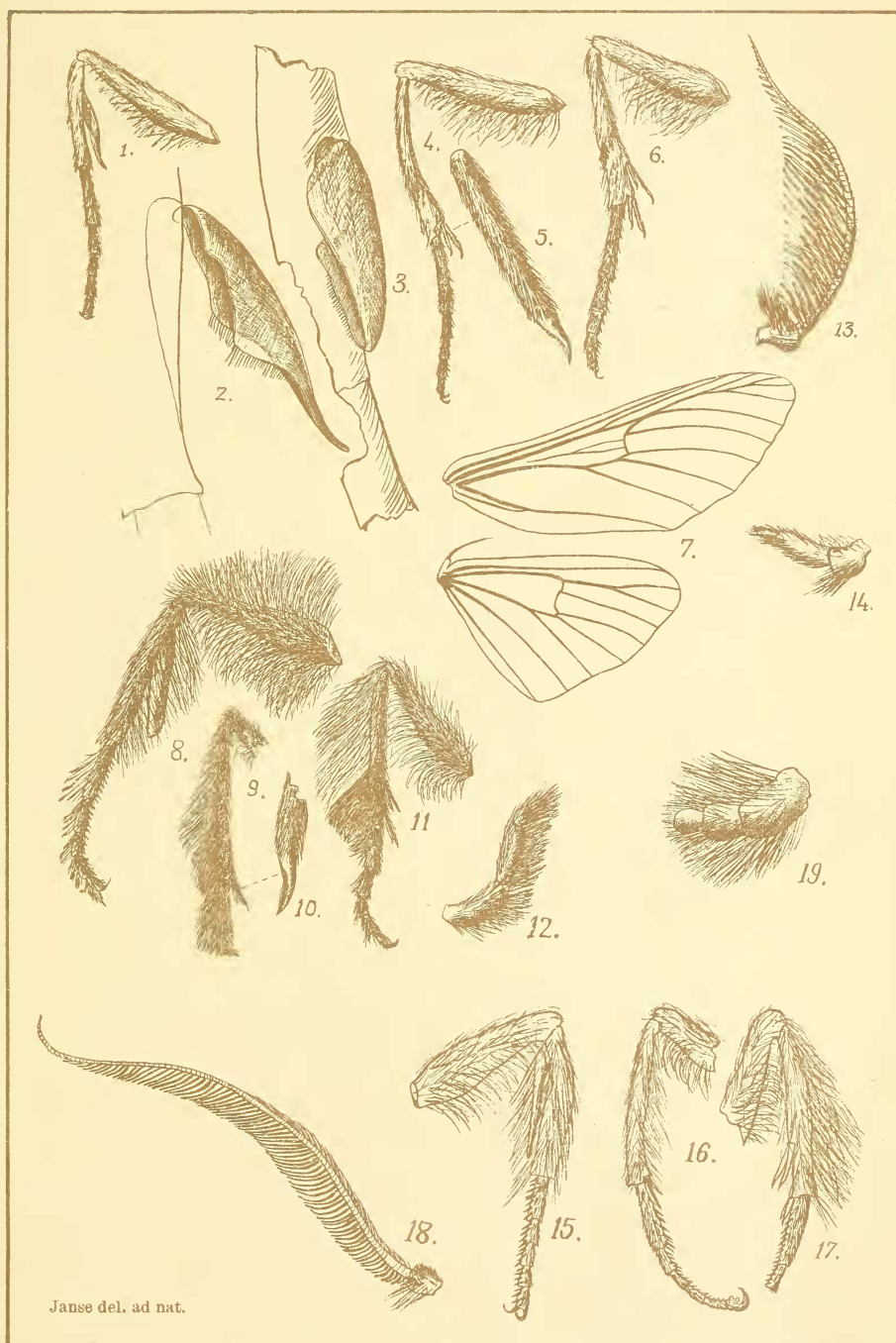
Plate VII.

FIGS. 1-6. *Chadisia curvilinea* ♀.—Fig. 1, fore leg $\times 5$; fig. 2, process of fore tibia $\times 34$ (♀); fig. 3, same of ♂; fig. 4, mid leg $\times 5$; fig. 5, spur of hind tibia $\times 34$; fig. 6, hind leg $\times 5$.

FIGS. 7-12. *Hoplitis dasychiroides* ♂.—Fig. 7, wings $\times 2$; fig. 8, fore leg $\times 5$; fig. 9, mid leg $\times 5$; fig. 10, terminal part of spur of mid tibia $\times 34$; fig. 11, hind leg $\times 5$; fig. 12, palpus $\times 11$.

FIGS. 13-17. *Galona serena* ♂.—Fig. 13, antenna $\times 5$; fig. 14, palpus $\times 11$; fig. 15, fore leg $\times 5$; fig. 16, mid leg $\times 5$; fig. 17, hind leg $\times 5$.

FIGS. 18-19. *Amyops gigas* ♂.—Fig. 18, antenna $\times 5$; fig. 19, palpus $\times 20$.



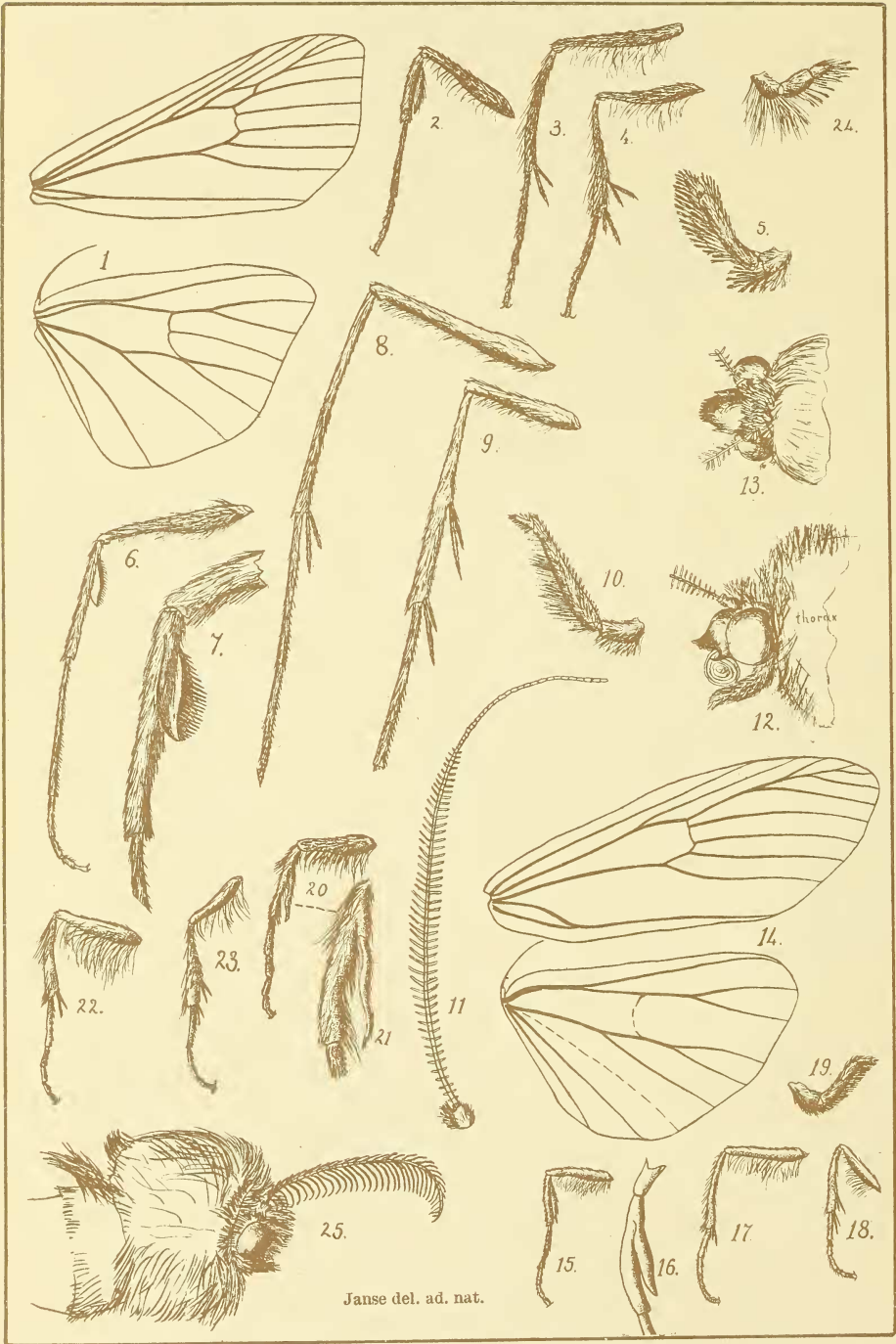


Plate VIII.

FIGS. 1-5. *Phycitomorpha stigmatica* ♂.—Fig. 1, fore wings $\times 3$; fig. 2, fore leg $\times 5$; fig. 3, mid leg $\times 5$; fig. 4, hind leg $\times 5$; fig. 5, palpus $\times 11$.

FIGS. 6-13. *Serancia stictica* ♀.—Fig. 6, fore leg $\times 5$; fig. 7, process of fore tibia $\times 11$; fig. 8, mid leg $\times 5$; fig. 9, hind leg $\times 5$; fig. 10, palpus $\times 11$; fig. 11, antenna $\times 5$; fig. 12, head from side $\times 5$; fig. 13, head from above $\times 5$.

FIGS. 14-19. *Tæniopteryx cinerea* ♂.—Fig. 14, wings $\times 5$; fig. 15, fore leg $\times 5$; fig. 16, fore leg denuded $\times 11$; fig. 17, mid leg $\times 5$; fig. 18, hind leg $\times 5$; fig. 19, palpus $\times 11$.

FIGS. 20-25. *Breyeria dasychiroides* ♂.—Fig. 20, fore leg $\times 5$; fig. 21, fore tibia $\times 11$; fig. 22, mid leg $\times 5$; fig. 23, hind leg $\times 5$; fig. 24, palpus $\times 11$; fig. 25, head and thorax $\times 5$.

Plate IX.

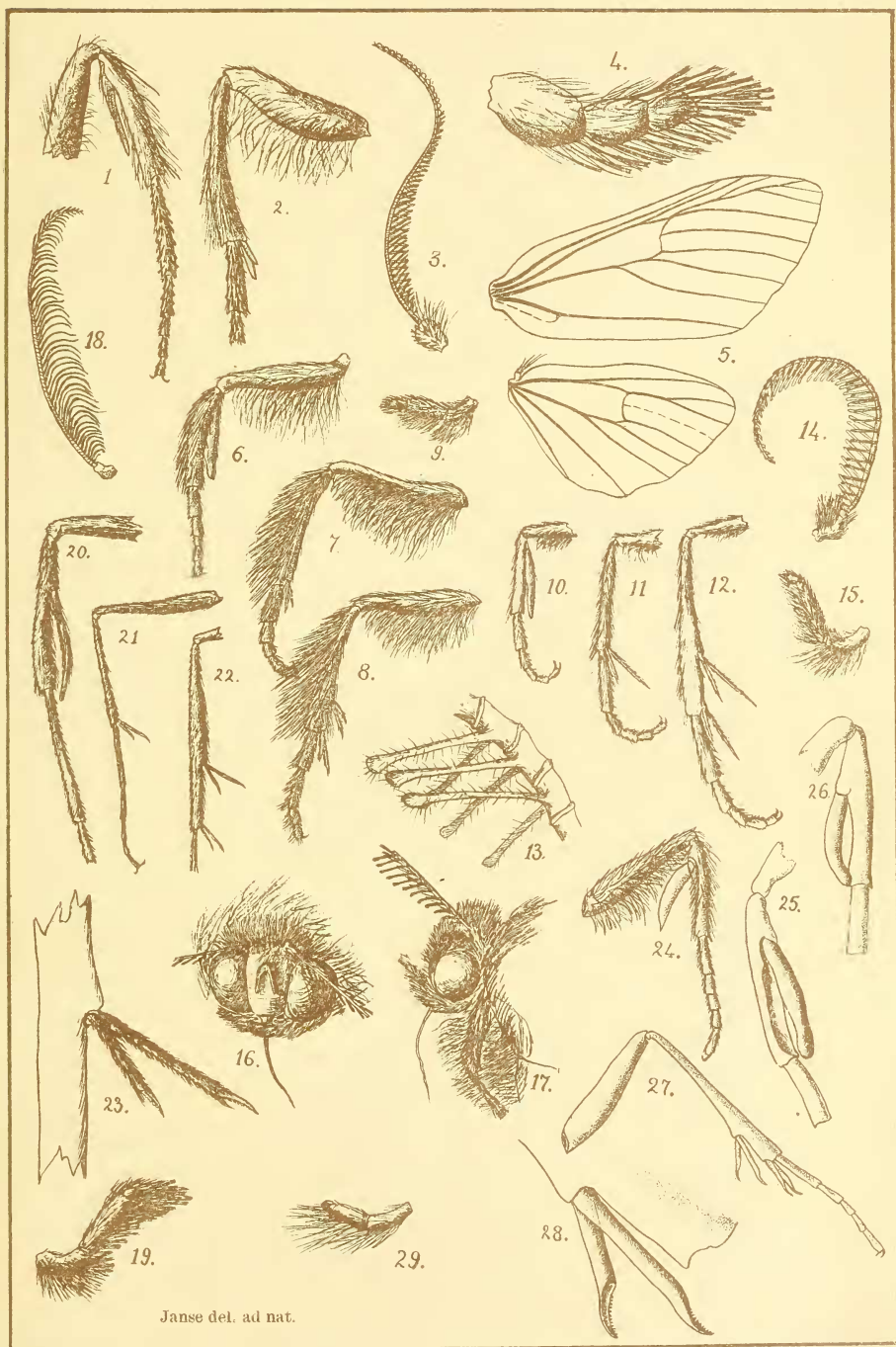
FIGS. 1-4. *Stenostaura impedita* ♂.—Fig. 1, fore leg $\times 11$; fig. 2, hind leg $\times 11$; fig. 3, antenna $\times 11$; fig. 4, palpus $\times 64$.

FIGS. 5-9. *Eurystaura brunnea* ♂.—Fig. 5, wings of ♀ $\times 3$; fig. 6, fore leg $\times 5$; fig. 7, mid leg $\times 5$; fig. 8, hind leg $\times 5$; fig. 9, palpus $\times 11$.

FIGS. 10-17. *Notoxantha sesamiodes* ♂.—Fig. 10, fore leg $\times 5$; fig. 11, mid leg $\times 5$; fig. 12, hind leg $\times 5$; fig. 13, portion of antenna $\times 34$; fig. 14, antenna $\times 5$; fig. 15, palpus $\times 11$; fig. 16, head with frons denuded $\times 5$; fig. 17, head (side view) $\times 5$.

FIGS. 18-23. *Burnuparia nigropulverata* ♂.—Fig. 18, antenna $\times 5$; fig. 19, palpus $\times 11$; fig. 20, fore leg $\times 11$; fig. 21, mid leg $\times 5$; fig. 22, hind leg $\times 5$; fig. 23, mid spur of hind leg $\times 20$.

FIGS. 24-29. *Zana marpissa* ♂.—Fig. 24, fore leg $\times 5$; fig. 25, fore leg from inner side (denuded) $\times 11$; fig. 26, same seen from the outer side $\times 11$; fig. 27, hind leg $\times 5$; fig. 28, mid spur of hind tibia $\times 20$; fig. 29, palpus $\times 11$.



Janse del. ad nat.

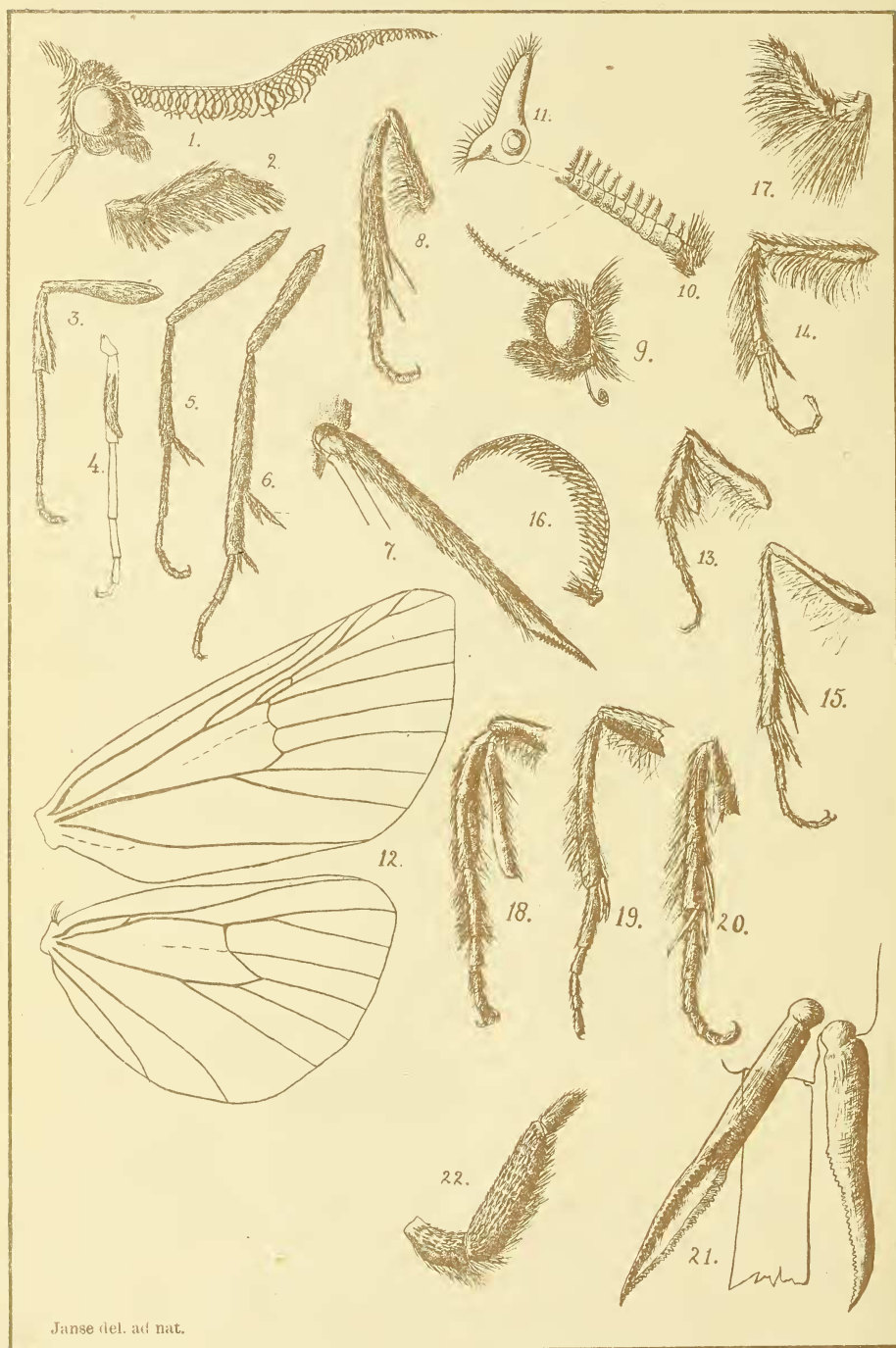


Plate X.

FIGS. 1-7. *Campyloctys gladstonei* ♂.—Fig. 1, head $\times 5$; fig. 2, palpus $\times 11$; fig. 3, fore leg $\times 5$; fig. 4, fore leg seen from the inner side $\times 5$; fig. 5, mid leg $\times 5$; fig. 6, hind leg $\times 5$; fig. 7, mid spur of hind leg $\times 25$.

FIGS. 8-11. *Ramesa macrodonta* ♀.—Fig. 8, hind leg $\times 2$; fig. 9, head $\times 5$; fig. 10, basal portion of antenna $\times 11$; fig. 11, joint of antenna seen from the front $\times 35$.

FIGS. 12-17. *Polienus modestus* ♂.—Fig. 12, wings of ♀ $\times 4$; fig. 13, fore leg $\times 5$; fig. 14, mid leg $\times 5$; fig. 15, hind leg $\times 5$; fig. 16, antenna $\times 5$; fig. 17, palpus $\times 11$.

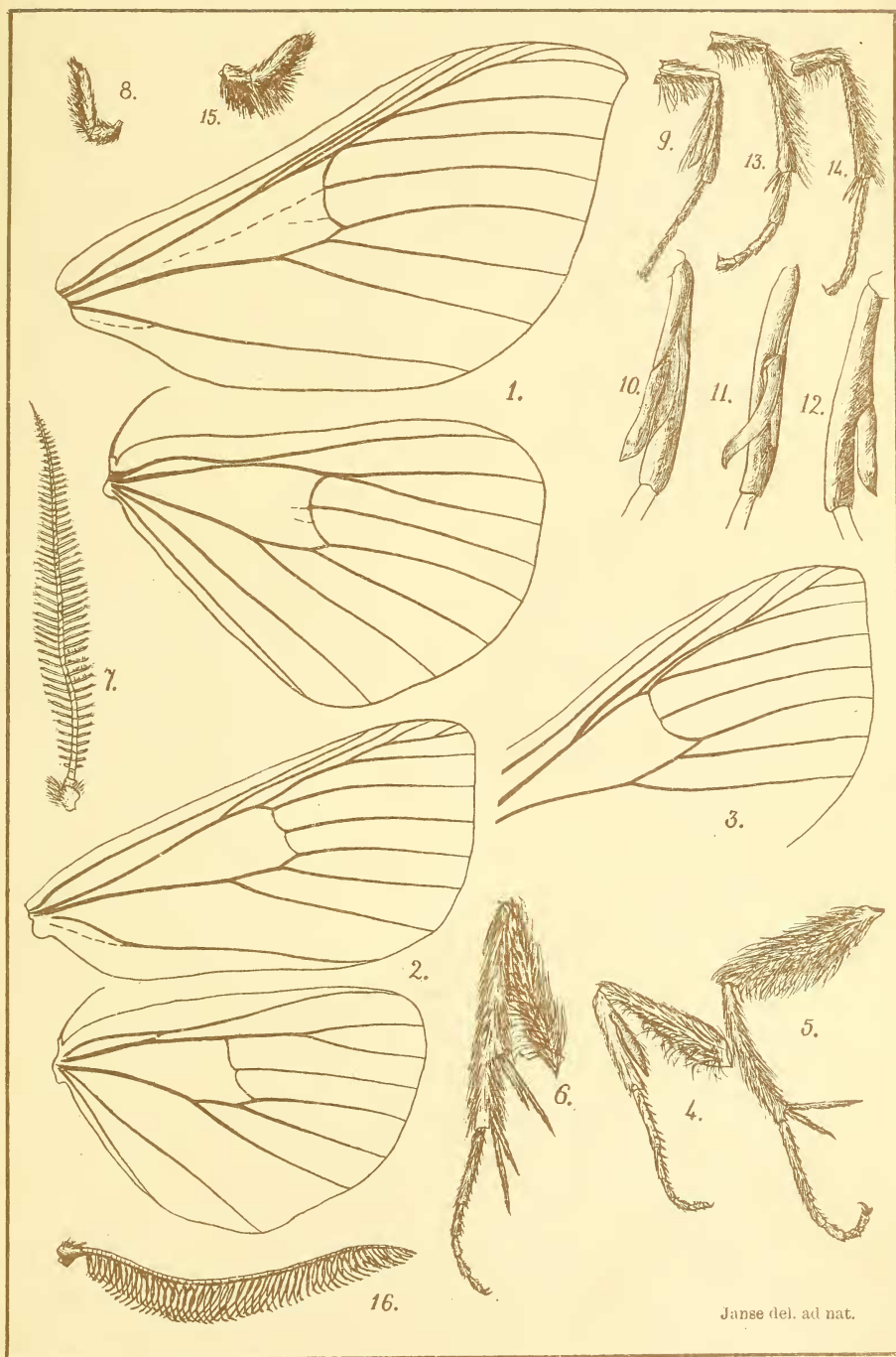
FIGS. 18-22. *Prionotocentrum o'neili* ♂.—Fig. 18, fore leg $\times 5$; fig. 19, mid leg $\times 5$; fig. 20, hind leg $\times 5$; fig. 21, terminal spurs of hind leg $\times 34$; fig. 22, palpus $\times 11$.

Plate XI.

FIG. 1. Wings of *Prionotocentrum o'neili* ♂ $\times 3$.

FIGS. 2, 4-8. *Pydna rubritincta* ♂.—Fig. 2, wings $\times 4$; fig. 3, part of fore wing of *P. rubrifascia* $\times 5$; fig. 4, fore leg $\times 5$; fig. 5, mid leg $\times 5$; fig. 6, hind leg $\times 5$; fig. 7, antenna $\times 5$; fig. 8, palpus $\times 5$.

FIGS. 9-16. *Anaphe reticulata* ♂.—Fig. 9, fore leg $\times 5$; fig. 10, process of fore tibia (denuded) $\times 11$; fig. 11, same turned one quarter; fig. 12, same turned half-way; fig. 13, mid leg $\times 5$; fig. 14, hind leg $\times 5$; fig. 15, palpus $\times 11$; fig. 16, antenna $\times 5$.



Janse del. ad nat.

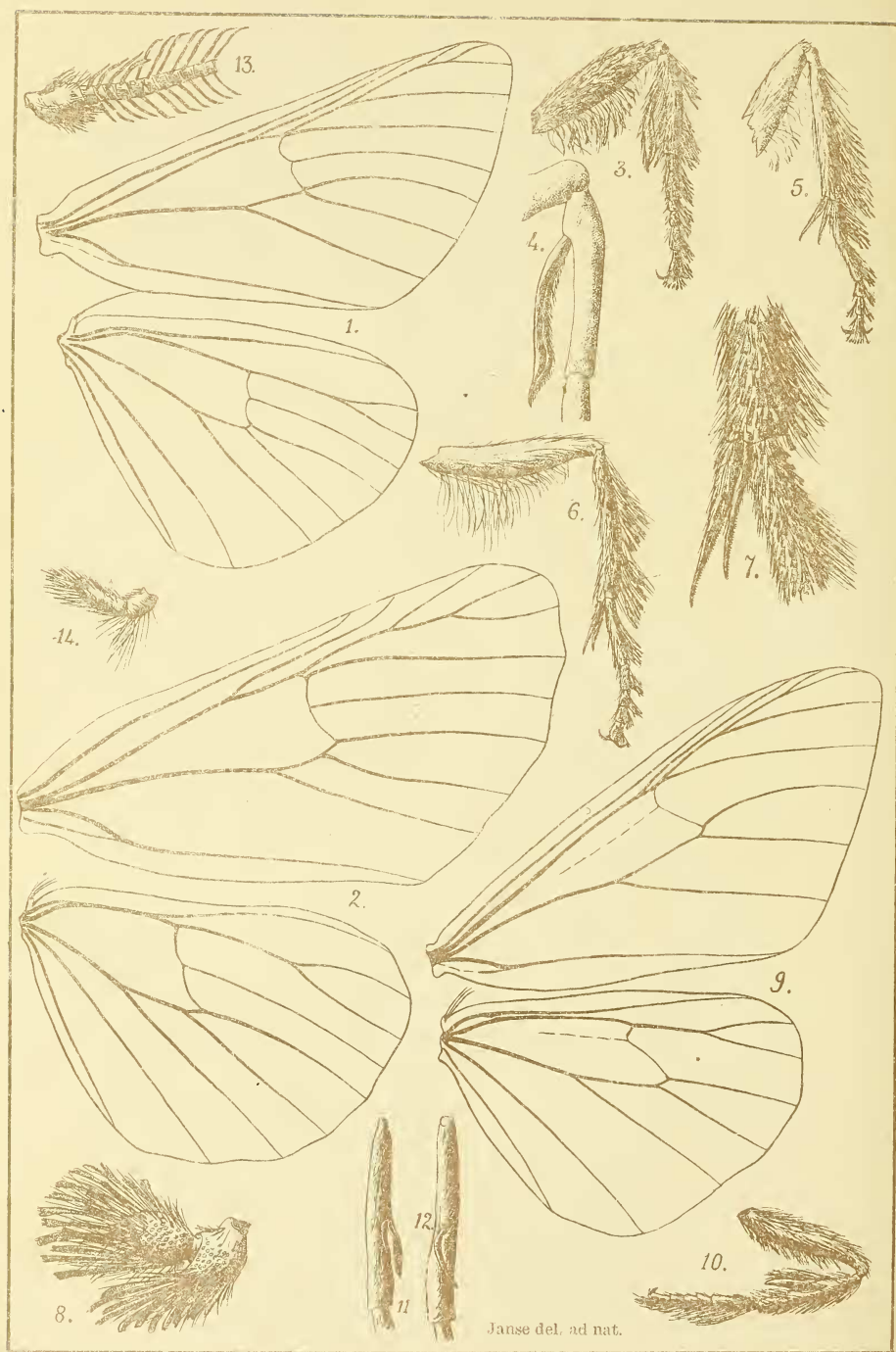


Plate XII.

FIG. 1. Wings of *Anaphe reticulata* ♂ $\times 3$.

FIGS. 2-8. *Polelassothis plumitarsus* ♂.—Fig. 2, wings of ♀ $\times 5$; fig. 3, fore leg $\times 11$; fig. 4, fore tibia (denuded) $\times 20$; fig. 5, mid leg $\times 11$; fig. 6, hind leg $\times 11$; fig. 7, terminal spurs of hind tibia $\times 34$; fig. 8, palpus $\times 34$.

FIGS. 9-14. *Epanaphe clarilla* ♀.—Fig. 9, wings $\times 5$; fig. 10, fore leg of ♂ $\times 5$; fig. 11 fore tibia of ♀ seen from the outer side $\times 11$; fig. 12, same turned one quarter; fig. 13, basal part of antenna $\times 5$; fig. 14, palpus $\times 11$.

Plate XIII.

- Fig. 1. *Scalmicauda o'neili* spec. nov. ♂.
,, 2. *S. o'neili*, ♀.
,, 3. *S. o'neili* var. ♀.
,, 4. *Ichthyura roseotincta* spec. nov. ♂.
,, 5. *I. violacearia* spec. nov. ♂.
,, 6. *I. violacearia*, ♀.
,, 7. *Pectinophora noctuiformis* spec. nov. ♂.
,, 8. *Cerura bifasciata* spec. nov. ♀.
,, 9. *Antheua mixta* spec. nov. ♂.
,, 10. *A. dimorpha* spec. nov. ♂.
,, 11. *Desmeocraera varia* spec. nov. ♂.
,, 12. *D. varia* ♀.
,, 13. *D. varia* var. nov. ♂.
,, 14. *D. canescens* spec. nov. ♂.
,, 15. *D. tripuncta* spec. nov. ♂.
,, 16. *D. platti* spec. nov. ♂.

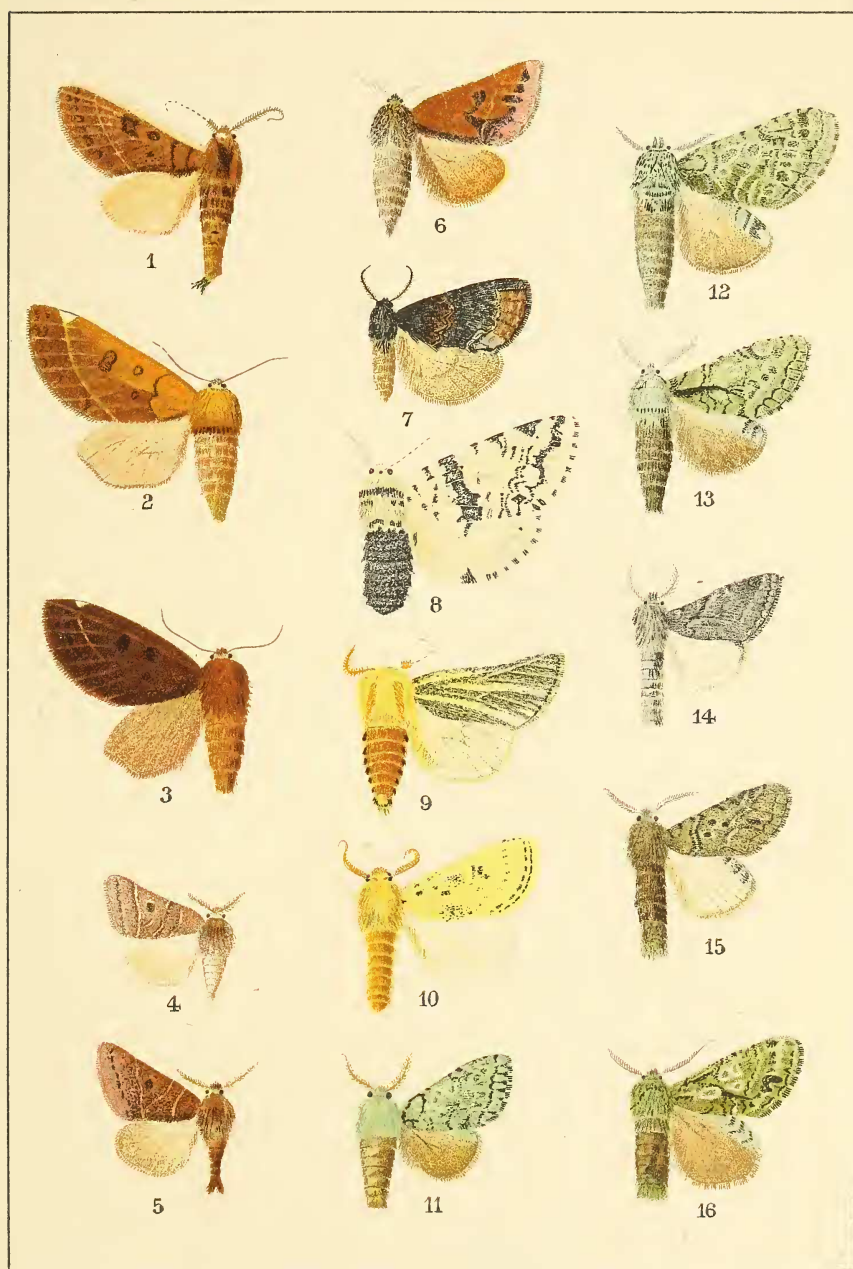


Plate XIV.

- Fig. 1. *Antheua dimorpha* var. *brunnea* nov. ♀.
,, 2. *A. dimorpha* spec. nov. ♀.
,, 3. *Hypophiala melanogramma* spec. nov. ♀.
,, 4. *Leucophalera elegans* spec. nov. ♂.
,, 5. *Hoplitis concolor* spec. nov. ♂.
,, 6. *H. concolor*, ♀.
,, 7. *Phycitimorpha congruata* spec. nov. ♂.
,, 8. *Ph. stigmatica* spec. nov. ♂.
,, 9. *Taeniopteryx cinerea* spec. nov. ♂.
,, 10. *Breyeria dasychiroides* spec. nov. ♂.
,, 11. *Eurystaura brunnea* spec. nov. ♂.
,, 12. *Crambometra derelicta* Prout ♂.
,, 13. *Campyloctys gladstonei* spec. nov. ♂.
,, 14. *Poliemus nigrosparsa* spec. nov. ♂.
,, 15. *P. fuscata* spec. nov. ♂.
,, 16. *Prionocentrum o'neili* spec. nov. ♂.
,, 17. *Polelassothys plumitarsus* spec. nov. ♂.

